

Tasmanian Year Book



1973

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TASMANIAN YEAR BOOK

1973



COMMONWEALTH BUREAU OF CENSUS AND STATISTICS
TASMANIAN OFFICE



TASMANIAN

YEAR BOOK

No. 7 : 1973

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PREFACE

This is the seventh issue of the *Tasmanian Year Book*, the first appearing in 1967.

While the general content or style of the Year Book has not been affected there has been some rearrangement of material in this issue, and a consequent increase in the number of chapters to 17, to allow a more comprehensive coverage of some facets of the State.

The Year Book is designed to present a comprehensive statistical and descriptive account of the physical environment and of the social, demographic, economic, etc. structure of the State with particular emphasis on change and development in more recent years.

The first two Year Books featured a great deal of historical material, but in subsequent issues this has been reduced and greater emphasis placed on expanding the contemporary record. In this edition historical articles deal with the Parliament of Tasmania, 1823-1901 and Wybalenna, the Tasmanian Aboriginal Settlement on Flinders Island.

Other special articles included in this issue feature some of the State's major industries, marine molluscs, the National Parks and Wildlife Service, the Tasmanian apple industry and the Theatre Royal.

An index of all special articles which have so far appeared in the Year Book precedes the general index.

As far as possible the latest available statistics at the time of printing and significant developments which have occurred in 1972 have been embodied in each chapter. However, where this has not been practicable, brief details have been included in Appendix A, Later Information.

More detailed statistics relating to matter treated generally in the Year Book are available in the various statistical bulletins and other publications issued by the Bureau. Information about these publications is provided in the section 'Publication of Tasmanian Statistics'.

I gratefully acknowledge the valuable assistance given by officers of the various Commonwealth and State Government Departments and by others who have contributed information, often at considerable trouble, and by those who have provided photographs. Especially I should express my appreciation to the Government Printer and his staff for their enthusiasm and co-operation in printing this volume.

The Year Book has been compiled under the direction of Mr J. M. Holliday, B.COMM.; Mr J. C. Pollard, B.ECON., was responsible for the editing of this issue.

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and
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Commonwealth Bureau of Census and Statistics,
HOBART, MARCH 1973

SYMBOLS AND USAGE

The following symbols, where used, mean:

- n.a. Not available.
- n.e.i. Not elsewhere included.
- n.p. Not available for separate publication; included in totals where applicable.
- p Preliminary—figure or series subject to revision.
- r Revision to figure or series published in previous issue.
- .. Nil or less than half the final digit shown, or not applicable.
- Break in continuity of the series. (Where drawn across a column between two consecutive figures.)

A blank space indicates the figure is not yet available.

Values are shown in Australian dollars (\$) and/or cents (c).

Any discrepancies between totals and sums of components in tables are due to rounding.

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

North-West Coast: The *north* coast from approximately Port Sorell west to Cape Grim is called the *north-west coast*.

North-East Coast: The *north* coast from approximately Low Head east to Cape Portland is called the *north-east coast*. With most of the north coast referred to as either 'north-west' or 'north-east', the term 'north' is rarely applied to this coastal region.

West Coast: The Tasmanian west coast may refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests, rather than of a coastline.

Midlands: The true midlands are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau and lying along the axis of the Hobart-Launceston road.

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Chapter 1

HISTORY AND CHRONOLOGY

DISCOVERY

The Period of Dutch Exploration

In the authors of antiquity, references are found to a land called 'Terra Australis' but it is the Dutch who are credited with the discovery of both Australia and Tasmania. The Dutch, with their trading posts in Java, represented the closest extension of European sea power near the north of the unknown continent and its discovery, either by accident or design, became inevitable.

In 1606, Captain William Jansz in the *Duyfken* was sent from Java to explore the islands of New Guinea and, crossing Torres Straits, unawares coasted along the west of Cape York Peninsula; this was the first of a series of voyages by Dutch captains who, in the next 30 years, acquired some knowledge of the western shores of the unknown land. Not all voyages were undertaken with the aim of exploration—Dirk Hartog's long journey along the western shore of Australia in 1616 resulted from his sailing too far east on the route from Cape of Good Hope to Java. Some later captains on the same route even regarded the western Australian coast as a suitable landfall before turning north for Java—a commentary on the difficulty of navigation when longitude had to be established by dead reckoning.

In 1642, the Dutch East India Company despatched from Java an expedition of two vessels, the *Heemskirk* and *Zeehan*, under Captain Abel Tasman, with instructions to investigate the extent of the unknown land thought to exist between New Guinea and the western coast of Australia. One immediate aim of the Governor General, Anthony Van Diemen, was to find a southern route from Java to Chile so that ships of the company could either trade or plunder along the Pacific coast of South America; a question to be resolved was whether any land mass extending far south blocked such a route.

The original plan was to sail west to Mauritius, to run down to 52° or 54° South latitude and then to proceed east; assuming no land was discovered, it was then intended to turn north in either the longitude of eastern New Guinea or possibly of the Solomons. If Tasman had followed this plan in every detail he might have discovered the east coast of Australia, anticipating Cook's work by more than a century. As it turned out, the extreme southern latitudes were too hostile and accordingly Tasman was sailing east in latitude 42° South when he sighted the mountainous west coast of Tasmania on 24 November 1642.

The Dutch navigator skirted the south coast and made a landing on the east coast for water in Blackman Bay (from an anchorage south of Marion Bay). He then sailed north to St Patricks Head, crossed the Tasman sea and discovered New Zealand, returning to Java by a route to the north of New Guinea. Tasman had thus performed the feat of circumnavigating Australia in a single voyage without once sighting the Australian continent.

In honour of the Governor General of the Indies, he named the first discovery Van Diemen's Land, imagining it to be the most southern extension of the Australian continent, an illusion that was only completely dispelled by Bass and Flinders when they circumnavigated the island in 1798. The Dutch did not follow up the discoveries of Tasman or their other explorers because

they were interested in establishing trading posts only among peoples with a higher degree of civilisation than the natives of Tasmania or Australia appeared to possess. (Tasman's crew saw no natives in Tasmania but inferred their existence from sounds, cuts in trees and the smoke of fires.)

The Period of British and French Exploration

One hundred and thirty years passed before Tasmania was visited again, this time by the French navigator Marion du Fresne in 1772; he virtually repeated Tasman's original landfall, skirted the south coast and came to anchor in the bay that bears his name (Marion). His visit is memorable for the first contact between Europeans and Tasmanians and for the slaying of the first native by gunfire. Du Fresne himself was killed by Maoris in New Zealand on the same voyage.

A year later, Captain Tobias Furneaux in the *Adventure* became separated from Captain Cook in the *Resolution* on the route to New Zealand and made for Tasmania to obtain water. He eventually anchored off Bruny Island in Adventure Bay but mistakenly believed himself to be in the area of Tasman's original landing which was at least 45 miles to the north-east. From this original error sprang a confusion in nomenclature which persists to this day (e.g. Frederick Henry Bay, first named in Tasman's record, appears on maps in an area that Tasman did not even see). Furneaux then sought to investigate the possibility of a strait separating Tasmania from the continent recently explored by Cook, but shoals in the islands bearing his name (Furneaux Group) caused him to abandon the project and make for New Zealand.

In 1777, Cook, on his third voyage, used the Adventure Bay anchorage without detecting Furneaux's navigational errors.

The settlement at Port Jackson in N.S.W. in 1788 put Tasmania on a major sailing route, the First Fleet passing south of the island on its way. To have sailed north of the island would have invited shipwreck on the Australian 'mainland' of which Tasmania was then believed to be part. In the same year, Captain William Bligh put into Adventure Bay with the *Bounty* on his way to Tahiti and to the famous mutiny; he had been on Bruny Island before, as Cook's sailing master.

Captain Cox of the *Mercury* anchored in the bay known as Cox Bight in 1789, charted some of the south coast and explored the strait between Maria Island and the east coast.

The next visitor (1792) was Admiral Bruny D'Entrecasteaux commanding *Recherche* and *Esperance* and searching for La Perouse who had not been heard of since 1788 when he sailed from Botany Bay. The Admiral sailed north hoping to anchor in Adventure Bay, but a navigational error put his ships too far west with the happy result that he discovered the magnificent channel separating Bruny Island from the Tasmanian mainland and was the first to sail up the Derwent River. Leaving Tasmania, the expedition sailed as far west as Cape Leeuwin in western Australia when it became imperative to take on water. It is an indication of the lack of knowledge then available that D'Entrecasteaux had to return to Adventure Bay to fill his casks. In the same year, Bligh put into Adventure Bay on his way to obtain breadfruit trees in the Pacific for transplanting in the West Indies.

The year 1794 was notable for the visit of Commodore John Hayes who had sailed from India with the *Duke of Clarence* and the *Duchess*; he explored the Derwent as far as Mt Direction and named Risdon Cove, later to be the site of the first settlement.

Tasmania an Island

Two voyages now followed which established that Tasmania was an island. Surgeon George Bass in a whaleboat left Port Jackson in 1797, rounded Wilsons Promontory and discovered Western Port. The nature of tides and swells encountered told Bass that here was no bay but rather a strait of considerable magnitude. In 1798, Bass and Flinders were given the sloop *Norfolk* to decide the question for all time and they circumnavigated the island, commencing on a westerly course along the north coast where they discovered the Tamar Estuary.

Fear of the French

In the original annexation of Australian territory by Cook in 1770, Tasmania was excluded since the southern limit was proclaimed as 38° South latitude. Formal possession of Tasmania was taken by Governor Phillip on 26 January 1788, when he read his commission to the people of the First Fleet at Sydney Cove. Now that it was established that Tasmania was an island, the authorities both in London and Sydney felt that some steps should be taken to block the French from making any claims to possession. The urgency of doing this was underlined by the arrival in D'Entrecasteaux Channel of Admiral Baudin with the *Geographe* and *Naturaliste* in 1802. The expedition's navigator, Freycinet, charted Tasman and Forestier Peninsulas and correctly identified the Frederick Henry Bay of the Dutch era. The expedition then called at Port Jackson before sailing south into Bass Strait where it was intercepted at King Island by Lieutenant Robbins in the *Cumberland*. Announcing his intention boldly to the French Admiral, the Lieutenant disembarked his small company and formally annexed the island in the name of King George III. Governor King at Port Jackson who gave Robbins his instructions was not satisfied that merely formal acts of annexation would block the French indefinitely and decided that permanent settlements were required if British sovereignty were to be retained. To this decision can be attributed the settlement at Risdon (1803) and the Hobart and Port Dalrymple settlements of 1804.

Geography of the Original Landing

The State map published by the Tasmanian Lands and Surveys Department (1:250,000) makes easy the recognition of Tasman's landings on the east coast. His anchorage was near Visscher Island while the first landing was made by longboats which passed through the narrows into Blackman Bay. The second landing occurred in the south-east of North Bay where a lagoon proved too brackish for filling water casks.

The last landing was made near Tasman Bay where the navigator had hoped to take formal possession of the new land. The surf being too rough to get the longboat ashore, the carpenter swam through the waves, planted the Dutch flag and then fought his way back to the longboat.

SETTLEMENT

The First Settlement at Risdon (1803)

It will be observed that the original explorers of the island (including the French) had very largely concentrated their attention on the south-east and, in particular, on the sea approaches to the Derwent. Faced with the necessity for establishing a settlement to assert British sovereignty, Governor King had a number of possible sites to consider, including King Island, Port Phillip and Port Dalrymple (the Tamar Estuary). His eventual choice was the area of the Derwent and he reported his intention to the Admiralty as follows:

'My reasons for making this settlement are the necessity there appears of preventing the French gaining a footing on the east side of these islands; to divide the convicts; to secure another place for obtaining timber with any other natural productions that may be discovered and found useful; the advantages that may be expected by raising grain; and to promote the seal fishery.'

Commissioned to make the Derwent settlement, Lieutenant John Bowen sailed from Sydney with the *Albion* and *Lady Nelson*; the two vessels separated in a gale but were anchored at Risdon by 11 September 1803, when Bowen went ashore. The slenderness of Governor King's resources is apparent from the fact that the settlers—free, convict and military numbered only 49 and that the *Albion* was a British whaler under temporary charter (she caught three sperm whales on the voyage while becalmed).

The responsibility for the choice of the Risdon site attaches ultimately to Bass who had made detailed investigations of the Derwent in 1798 from the *Norfolk*. He had reported as follows: 'The land at the head of Risdon Creek, on the east side, seems preferable to any other on the banks of the Derwent.' It was not surprising, therefore, that Bowen's commission from Governor King directed him to locate the new settlement in the Risdon area. In actual fact, the site ultimately proved unsuitable due to the inadequate stream and the poor landing place; these handicaps were aggravated by the wretchedness of the human material at Bowen's disposal, a characteristic not altered when the camp was increased to nearly 100 persons.

If the settlement has any claim to fame, it derives from an encounter with natives who descended on the camp on a hunting expedition and who were fired on by the soldiers in a state of panic. Whether the future barbarities of inter-racial war could have been avoided is an open question but this encounter was the first phase of a struggle that ended in the extinction of a race.

The final act of the Risdon settlement was played on 9 August 1804, when the *Ocean* sailed for Port Jackson with Lieutenant Bowen and most of his people; Lieutenant-Governor Collins at the new settlement at Hobart had decided to close down the Risdon camp and held such a low opinion of these early colonists that he retained only thirteen convicts and one free settler.

The Settlement at Hobart (1804)

If Lieutenant-Governor Collins had carried out his original instructions, then Hobart today might have been the name of the capital of Victoria situated on Port Phillip Bay. The British Cabinet, impressed by Governor King's warnings on possible French penetration, decided to carry out the occupation of Port Phillip direct from Britain and, to this end, commissioned Lieutenant-Colonel Collins (Royal Marines) to command an expedition in the *Calcutta* with the *Ocean* as tender to secure the strategic Bass Strait. Control of the Strait meant that the dangerous 700-mile journey around Van Diemen's Land was avoided and also prevented a hostile foreign power from threatening British sea lanes in the South Pacific.

The settlers eventually arrived, via Rio De Janeiro and the Cape of Good Hope, and formed a temporary camp near the site of the modern Sorrento township. For a variety of reasons, Collins was unhappy about the locality; he considered navigation hazardous, the soil poor and water inadequate. He was unwilling to develop promising land at the head of the bay due to the show of strength by large bands of natives and because of its distance from the open sea. Collins had seen the problems of isolation at Sydney and considered a settlement at the head of Port Phillip Bay unduly hazardous. With the wind in the wrong quarter a ship could be locked in the bay for several days thereby defeating the purpose of the settlement—a port to protect and control Bass Strait. Accordingly he wrote for advice to Governor King in Sydney and was left free to decide between the River Derwent and Port Dalrymple as possible sites for transfer of his command. He was probably swayed in his eventual choice of the River Derwent by its reputation as a safe harbour and the fact that Risdon had already been settled.

On 15 February 1804, Collins, with the first detachment from Port Phillip in the *Lady Nelson* and *Ocean*, anchored off the new settlement at Risdon. A quick inspection satisfied Collins that the site was quite unsuitable and he made his own reconnaissance, eventually selecting the area on the western bank known as Sullivan's Cove and ordering that the expedition should be disembarked with all its stores in the vicinity of Hunters Island. In the same month, Collins reported to King that his two ships were 'lying within half a cable-length of the shore in nine fathoms of water'; the Lieutenant-Governor had selected gentle slopes for his settlement, located a fine stream running from Mt Wellington and found near the mouth of the stream depths of water which would accept the draught of any vessel of his day (or of the modern era).

The following table shows the early composition of the settlement at Sullivan's Cove (but excludes details of the Risdon camp):

Number Actualled at Sullivans Cove, 26 February 1804

Quality	Men	Women	Children
Military Establishment	26	1	..
Civil Establishment	6	..	..
Settlers	13	5	13
Convicts	178	9	8
Supernumeraries	(a) 3	..	..
Total	226	15	21

(a) Including one Aboriginal from Port Jackson.

The strength of the colony was increased to 433 persons in June 1804 when the *Ocean* returned from Port Phillip, where it had taken aboard the balance of the original expedition. From the camp on Sullivans Cove has sprung the present city and port of Hobart.

David Collins was no amateur in the field of colonisation—he had sailed with Governor Phillip as Judge Advocate in the First Fleet in 1788 and had acted as Secretary to the Governor till 1796 when he returned to Britain with excellent recommendations.

The Settlement on the Tamar (1804)

While the Lieutenant-Governor was still in Port Phillip Bay, wondering where best to settle, he sent his namesake, William Collins, on a voyage of exploration to the Tamar Estuary. William Collins followed the river up as far as the Cataract Gorge and returned to Port Phillip with a good account of the possibilities of the Tamar for settlement; in his absence, however, the Lieutenant-Governor had made up his mind and was already preparing for the expedition to the Derwent.

Later Governor King received a despatch from Lord Hobart (Secretary of State for the Colonies) who, by a grotesque error, recommended the establishment of a settlement at Port Dalrymple 'upon the southern coast of Van Diemen's Land and near the eastern entrance of Bass' Straits'. If Lord Hobart really meant 'south' then Collins' move to the Derwent had anticipated his wishes. However, since Collins had in fact left Port Phillip, was it not necessary to re-occupy Port Phillip or possibly to watch the Strait from Port Dalrymple? King knew that Hobart's despatch was written in ignorance of Collins' move and accordingly decided to use his own initiative without raising questions of geography with the Secretary for Colonies.

In Hobart's despatch, Lieutenant-Colonel William Paterson (New South Wales Corps) was nominated as Lieutenant-Governor of the new colony. Paterson set sail with 57 soldiers and convicts in the *Integrity* and the *Contest* but after a month of adverse winds both ships were forced back to Port Jackson. A second attempt was made using *Buffalo*, *Lady Nelson*, *Francis* and *Integrity* and increasing the party to 181. This time the Tamar was successfully entered but H.M.S. *Buffalo* went aground and was, with some difficulty, brought to anchor in Outer Cove (George Town) on 4 November 1804. Lieutenant-Colonel Paterson decided that *Buffalo* must be immediately unloaded and accepted the Outer Cove site as a suitable camp while he undertook a more detailed reconnaissance of the Tamar.

Although he penetrated as far as the fertile site of Launceston, Paterson made the extraordinary decision to set up his headquarters at the head of West Arm and founded York Town, while still maintaining small establishments at Outer Cove, Low Head and Green Island. In deciding on York Town, one can only imagine that Paterson was guided purely by the strategic necessity, as was Collins at Sorrento, of being near to Bass Strait and that he gave little thought to the problem of soil fertility and cultivation.

In March 1806, Paterson was willing to admit that York Town was a most unsuitable site and he accordingly moved his headquarters to the present site of Launceston. Today York Town and Risdon have one thing in common—the almost complete absence of any indication that settlements had ever existed.

Paterson, before setting out on his expedition, had been involved in an argument as to his status but Governor King had resolved the matter by dividing Tasmania at the 42° parallel and making Collins and Paterson sovereign in their respective halves, but subordinate to him as Governor.

THE PARLIAMENT OF TASMANIA, 1823-1901

The following article was contributed by Professor W. A. Townsley, Professor of Political Science, University of Tasmania.

Origin

The origin of Tasmania's Parliament lies in a British Act of Parliament of 1823 which was intended to provide for the better administration of New South Wales and Van Diemen's Land. Hitherto the Governor of New South Wales had issued proclamations, which some authorities had declared unconstitutional (although this opinion was not shared by the Colonial Office under James Stephen). When the Colonial Office authorised the establishment of a legislature, it decided against a body which might question the tight control it wanted to maintain over the Colony through the Governor. It argued that there was no popular demand for an elected body and that the number of free and responsible inhabitants was too small. Accordingly it decided on a body consisting of between five and seven members nominated by the Crown. Such a body could do little to impede the executive authority of the Governor. He alone could initiate bills and these had the force of law if he could get the assent of one member of Council, although members who dissented could have their reasons for dissent recorded in the minutes. The Governor also possessed extraordinary powers enabling him in certain circumstances, such as rebellion, to act alone. There were, however, certain checks on the validity of legislation. Each Act had to be certified by the Chief Justice of the Colony as being 'not repugnant to the laws of England' and then had to be sent to the Secretary of State who could declare it null and void.

Establishment of a Legislative Council

In 1825 Van Diemen's Land was separated from New South Wales. Governor Darling's commission described the powers vested in the Lieutenant-Governor of the new colony and gave instructions relating to the establishment of an Executive Council and a Legislative Council. The first Legislative Council in Van Diemen's Land consisted of the following nominated members: the Chief Justice, the Colonial Secretary, the Commandant of Port Dalrymple, the Naval Officer, the Chief Police Magistrate and one private citizen. Its first meeting was in April 1826. Lieutenant-Governor Arthur was present throughout the proceedings of the Council, which he directed as its President. Meetings, which were held at Government House, were not set down for any fixed time but were arranged at the convenience of members. Clerks of the Council kept the minutes. In 1827 an additional member was appointed but it did not prevent the agricultural and commercial interests of the colony from petitioning for a representative institution. To them the existing Council seemed to be nothing more than the instrument of the Governor's authoritarian will. Disagreement between Governor Arthur and these free settlers grew when laws were passed severely restricting the freedom of the press and was not lessened when the Secretary of State nullified the legislation as repugnant to the laws of England.

The 'Reformed' Council

In 1828 the composition of the Legislative Council was enlarged by the 'Huskinson' Act to include the Lieutenant-Governor, six official and eight non-official members. The Act provided for a quorum of two-thirds of the members and gave the Lieutenant-Governor a deliberative and a casting vote. The six officials appointed were the Chief Justice, Colonial Secretary,

Attorney-General, Colonial Treasurer, Senior Chaplain and Collector of Customs. The initiative remained with the Lieutenant-Governor but he did not retain exceptional powers and any bill could be vetoed by a majority of dissenters. Legislative Acts were enrolled and recorded in the Supreme Court but could be annulled only by the Secretary of State. This did not stop complaints that too many officials were in the Council and that the landed interest was favoured to the detriment of the commercial interest. The reformed Council first met in January 1830.

Until recalled in 1836, Lieutenant-Governor Arthur managed the Council well and prevented the development of two hostile blocs of official and non-official members. Procedural rules were laid down and many enactments were made to regulate the commercial life of the colony. Much legislation arose from colonists' petitions while other legislation was related to matters as varied as insolvency, currency, and water supply. Money was voted for education and grants were made to the churches. Controversy arose outside and inside the Council on the question of revenue appropriation.

There was a growing demand among colonists, which was voiced in the Council, that the cost of maintaining police and ancillary services for a convict establishment should be charged against the Land Fund (derived from the sale of Crown Lands and quit rents) which the British Government reserved for financing the immigration of paupers. In Arthur's time the question remained unresolved but it gave rise to bitter criticism in the colonial press and soon led to the emergence of an active group of intransigent and influential colonists. Arthur refused to admit the press to the proceedings of the Council and in return it waged a ruthless campaign, accusing him of tyranny, jobbery, usury and nepotism and demanded his recall.

The years of Lieutenant-Governor Franklin were more auspicious. Popular with all classes of the community he set out to give vigour and prestige to the Council. Meetings were held in the newly-built Customs House, now Parliament House, in the afternoons between one and three o'clock. The number of meetings between 1836 and 1843 varied considerably from year to year but the average was 32. The Council followed the British Parliament with its procedural rules.

From a review of the Finance Minutes presented by the Lieutenant-Governor each year a picture of the economic trends of the colony can be built up. The years from 1837 to 1841 were prosperous. Revenue exceeded expenditure and a number of public works was undertaken. The boom burst in 1842 and by the time Wilmot succeeded Franklin the Colony was in economic depression, bringing severe difficulties to the Colonial Government. According to the orthodox practice of the day, the Government was expected to balance its budget each year or face a reprimand from the Secretary of State. With declining revenue the Colonial Government could not meet the costs of immigration imposed on it by the British Government. In his efforts to find new sources of revenue Wilmot met stubborn opposition from the non-official members of the Council. The adoption of the probation system by the Convict Department accentuated the need for such ancillary services as police and gaols, the cost of which was also charged to Colonial revenue.

The Patriotic Six

The crisis came in 1845. The non-official Council members moved amendments to the annual estimates which were defeated only by the Lieutenant-Governor using his casting vote. In a final gesture of opposition, six of the non-official members resigned and the local press hailed them as the 'Patriotic Six'. With some difficulty Wilmot obtained replacements but a petition was sent to the Queen and to the British Parliament calling for a representative Parliament. At this juncture Wilmot was recalled and replaced by Denison who had the backing of the Secretary of State, which Wilmot had lacked. Denison reinstated the 'Patriotic Six', and thereby earned the resentment of some of those replaced and their friends. By dint of firmness and with the help of the British Government, which agreed to defray two-thirds of the cost of police and gaols, Denison was able to restore some confidence in the Colonial Legislature. Then in 1850 the British Government passed the *Australian Colonies Government Act* which provided for a partially representative body. The old Council sat for the last time in April 1851.

Elected Parliament

The first elections for a Tasmanian Parliament took place in October 1851. The issue of transportation overshadowed all others and the Anti-transportation League candidates won every seat. Despite every effort made by Denison, the issues of abolition of transportation and representative government were inextricably entwined. The newly formed 'blended' Council—two-thirds were elected and one-third nominated by the Crown—lasted four years.

The blended Council elected its own Speaker and the Lieutenant-Governor was not present at the proceedings. He relied on his officials to win over enough of the moderates among the elected members to carry the Government's legislative measures. But the issue of transportation plagued the situation, so much so that Denison saw two of his most senior officials supporting the cause of the abolitionists. The so-called 'opposition' then questioned the need for any nominated members and called for further constitutional changes. A Council committee worked out the principles to be embodied in a new constitution and these provided for two houses, elected on a restricted property franchise, to be called the Legislative Council and the House of Assembly. The Lieutenant-Governor was to have power to prorogue both houses but to dissolve only the lower house. Denison gave general support to these proposals in writing to the Secretary of State. The *Constitutional Bill* was confirmed by Order-in-Council in 1855 and the first elected two-chamber Parliament of Tasmania met on 2 December 1856.

Responsible Government

In *The Government of the Australian States*, edited by S. R. Davis, events following the establishment of the Tasmanian bi-cameral system were fully described: 'The Tasmanian Parliament was born in 1856 with the establishment for the first time of fully representative and responsible institutions in the colony. The debates on the Constitution Bill reveal the political thought that prevailed at the time. Liberal ideas expressed widespread distrust of executive government. The nominee principle was discarded because it tended "to vest in a privileged and irresponsible class those powers which are inherent in the people", and the people were "the legitimate source of all power". Yet care was taken to see that "the conservative element of the constitution will be well secured by vesting the franchise in a body most universally and instinctively opposed to innovation in a dangerous form". An Upper House was therefore designed "to be a conservative break upon hasty Legislation", and it was thought it would function better if it had "a permanent, indissoluble and continuing character". There was some difference of opinion at the time concerning the size of constituencies for election to the Upper House. Some favoured four constituencies, others preferred that the whole State should form one constituency, but the majority held that the Upper House should have roughly half the number of members of the Lower House. This convention was strictly maintained till 1907 when it was broken by the Upper House. In 1856 it was argued that having a larger number of constituencies would counter the predominance of the town over the country. This aim of the founders of the Upper House has been achieved down to our own day.

Changes were naturally made in the original Constitution and Electoral Acts. The Parliament that was opened on 3 December 1856 had 15 members in the Legislative Council and 30 in the House of Assembly. The franchise of the Upper House was conferred on owners of freehold estate of £50 annual value and also on graduates, retired naval and army officers, lawyers, doctors and ministers of religion. For the Lower House, franchise was granted to anyone who possessed a freehold estate worth £100 clear, to householders paying £10 annual rent, to salary earners of £100 per annum upwards, and to those with professional qualifications as laid down by the Council. After 1858 all voting was by ballot.

The Assembly was elected for a three-year term but could be dissolved within that period. The Council could not be dissolved and its members were elected for six years and retired in rotation. In 1871 the Council gained one and the Assembly two members. At the same time the franchise qualifications were lowered to include for the Council £30 freehold estate and leasehold

of £200 annual value; and for the Assembly £50 freehold, £7 per annum rental or salary of £80. Franchise qualifications were reduced still further in 1885 and again in 1896 when the Council accepted £15 annual value for freehold, £50 leasehold, while the salary qualification for the Assembly became £50. Meantime membership of the Council had increased to 19 and that of the Assembly to 38. On the eve of federation freehold qualification for the Council was reduced further to £10 per annum and £30 occupancy, while manhood suffrage was adopted for the Assembly. The last 20 years of the century—the mining era, which was marked by unusually big shifts of population within the colony, a much reduced exodus and economic prosperity—saw the beginning of popular democracy and some inroad being made into the privileged position of a small oligarchy of landed and commercial families.

Voting for the new Parliament was not compulsory. In a statute of 1858 bribery and corruption in the practice of elections were defined and declared illegal while provision was made for appeals to the Supreme Court against any alleged malpractice.

Although restrictions on franchise were steadily relaxed between 1856 and 1901, politics in Tasmania throughout this period were controlled by a group of established families. Members in both houses formed cliques. Even if some were regarded as conservatives and others as liberals, political parties in the modern sense did not exist before the advent of the Tasmanian Branch of the Australian Labor Party following Federation.

Relations of the Houses

Members of the House of Assembly and the Legislative Council were generally in social accord, but this did not prevent occasional clashes between the two houses. The first conflict arose as early as 1857. The Council, rejecting the analogy of the House of Lords, claimed the right to amend a money bill. A conference between the two houses, called to determine their respective powers in relation to money bills, broke up without any definite result. In 1877 the Assembly charged the Council with unconstitutional conduct when the Council itself introduced and passed an Audit Bill which was sent down to the Assembly for its concurrence. In 1879 the Council refused supply for a limited period of six months and pressed the Governor to intervene against certain financial measures of his Ministers. When he refused, the Council adjourned for three months forcing a prorogation of Parliament. At no other time were relations between the houses so bad as in the 1870s, a period of political instability and economic depression, when ordinary parliamentary business was regularly interrupted by personal animosities. The next serious conflict between the houses arose on the eve of Federation. In 1900 faced by persistent opposition of the Council, the Premier, Sir Edward Braddon introduced a Constitution Amendment Bill, designed to set limits to the power of the Council to delay a measure or obstruct a Government that controlled the House of Assembly. The Bill provided for a double dissolution in certain circumstances. The Council rejected the Bill by 10 votes to seven. Thus the most serious challenge to the powers of the Council in the nineteenth century came to nothing. Although the Council continued to amend money bills and to reject other measures it was not formally challenged again for nearly 25 years.

Parliamentary Instability

Without a well-disciplined party system the first attempts to make responsible government work ran into difficulties. Until Federation and the rise of the Labor Party, Parliament was much more the maker and breaker of cabinets than is known in the twentieth century. It was a period of political instability aggravated by economic depression. From the ministry formed by W. T. N. Champ in 1856 to that of Sir Neil Elliott Lewis in 1899 there were 22 governments. On average a government lasted for two years and in fact the length of ministries varied considerably. Seven had a life of less than 12 months. The longest were those of Sir Edward Braddon (66 months), P. O. Fysh (65 months), W. R. Giblin (58 months), J. Whyte (46 months) and Francis Smith (42 months).

Apart from the first year, 1856-57, when there were four ministries before Francis Smith as Premier gave the appearance of making the system of responsible government work, the most unstable years were between 1872 and 1879 when eight different ministries were formed. The long economic depression, which did not lift until the mining boom of the 1880s, aggravated the factional politics that had marked life in the colony since the conflicts with Wilmot and Denison over representative and responsible institutions. The politics associated with the construction of the first railways—from Launceston to Deloraine and from Hobart to Launceston—soured the relations of a number of families and intensified long standing personal animosities. There were rival cliques; on the one side were the 'liberals' or 'progressives' who purported to continue the tradition of T. G. Gregson and on the other, the 'conservatives', who were linked less by a common philosophy than by a desire to bring some continuity and stability into government. It was W. R. Giblin, who, as Premier, and assisted particularly by Sir John Stokell Dodds, Adye Douglas and J. W. Agnew, formed what was known as the continuous ministry from 1879 to 1887. This was followed by a 'liberal' landslide and the governments of P. O. Fysh (1887-1892) and then Sir Edward Braddon (1894-1899). A leading Parliamentary debater in these years was the Attorney-General, Andrew Inglis Clark, who, like Douglas, Fysh and Braddon, took a leading part in the movement to take Tasmania into the Australian Federation.

Control of Parliament

Through the second half of the nineteenth century the character of the Tasmanian Parliament changed very little. It continued to be controlled by the landowning, banking and merchant families. It was factional, but there were times when it tried to live according to the best traditions of the Parliament at Westminster. Although the Parliament lacked a Hansard, its official records were kept and published separately each session as Votes and Proceedings of the Legislative Council and of the House of Assembly. The leading newspapers, the Hobart *Mercury* and the Launceston *Examiner* reported in considerable detail, sometimes verbatim, the debates in both houses. All the newspapers added much critical comment on government policy and on Parliament's performance. As the century closed there were two developments, each of which was soon to change the character of the Tasmanian Parliament.

The first was the creation of the Australian Federation and to the Commonwealth Parliament Tasmania sent men like P. O. Fysh, who had been actively engaged in State politics. The second development was the emergence of the Labor Party, destined to challenge the control the established families had exercised over the Parliament of Tasmania.

WYBALENNNA, THE TASMANIAN ABORIGINAL SETTLEMENT ON FLINDERS ISLAND

The following article was contributed by Miss J. Birmingham, Senior Lecturer in Archaeology, University of Sydney.

History of Wybalenna Settlement

Wybalenna Settlement, located on the east coast of Flinders Island in the Furneaux Group, was only one in a series of sites selected by the Government of Van Diemen's Land between 1828 and 1847 to accommodate the small number of Tasmanian Aborigines who survived the early years of European contact. The first such settlement, at Bruny Island off south-east Tasmania, was used for about 25 Aborigines comprising the island tribe and others brought from the bush in the first stages of the Government scheme of conciliation. As numbers under Government control increased, the Tasmanians were moved, first to Swan Island in 1831 and then to Guncarriage Island in Bass Strait. At least one temporary camp was set up on Flinders Island before the final permanent settlement at Wybalenna was authorised by Governor George Arthur in 1833 for a group of Tasmanians, by then numbering about 200.

In 1847, however, Wybalenna was abandoned, this time because it was too large for the inexorably dwindling band. The last Tasmanians were once again moved to the Tasmanian mainland, at Oyster Cove near Hobart.

The Wybalenna Settlement saw the most significant phase of this last chapter of Tasmanian Aboriginal history. Its commandant from 1835 to 1840 was George Augustus ('Conciliator') Robinson, the man who, from 1828 onwards, had succeeded in bringing the last surviving Aboriginal families from the bush when earlier Government policy had failed. It was during these years that hopes were high for the ultimate preservation of this ancient race, first in the seclusion of the Island sanctuary and then in a programme of 'phased integration'. However, Robinson's plans for the education of a stone-age race into the ways of a nineteenth century democratic, capitalist and Christian society were tragically thwarted by the vulnerability of even the strongest Tasmanian Aboriginals to respiratory infections. By 1840 there remained no women of child-bearing age. Robinson seemed to lose interest as extinction of the race became inevitable and in 1840 completed arrangements to take a post at Port Phillip in Victoria.

During the Wybalenna period (1833-1847), historical documentation is abundant.

Apart from Government sources, Robinson's papers, which include several copies of the weekly *Flinders Island Chronicle* (hand written by two literate Aboriginal boys for circulation in the Settlement) and his journals give useful accounts of the daily timetable, and activities of both Europeans and Aboriginals, the personnel of the settlement and its organisation. The Tasmanians engaged in gardening, collecting grass for roofing and hunting; but mainly idled the hours away talking, laughing, quarrelling over women, playing marbles and smoking. Some were learning trades such as tailoring and the young ones went to school. All assembled in the schoolroom-chapel in the evening, listened to Bible stories and sang hymns. There were occasional banquets in the open air at long trestle tables, a weekly market, games of cricket, and the unending series of solemn funerals. The Europeans comprised Robinson, his wife and family, his medical officer Dr Allen, the Catechist Mr Clarke and his wife, and the store-keeper Mr Dickinson and his wife. Following Robinson's departure to Victoria, his son was in charge for a short period. Dr Henry Jeanneret was posted to the Settlement in 1842 as Medical Officer and Commandant. In 1843 he laid charges against the Military Guard, and the Catechist Mr Clarke for cruelty and neglect, which led to his suspension from office for over two years by the Governor while the matter was considered by the British Government. In 1846 Jeanneret was reinstated, but the following year the Settlement was abandoned and the Aboriginals moved to Oyster Cove under Dr Milligan.

After this Wybalenna Settlement decayed quickly. Bishop Nixon called there in 1854 in the *Beacon* and found the Superintendent's house in decay, the Aboriginal huts collapsing, and only the Chapel in good order. In 1872 Canon Brownrigg visited in the *Freak* and commented '... the buildings are a mere heap of ruins, the Superintendent's quarters are almost incapable of repair. The brick church so far as its interior is concerned is in a pitiable condition and is used as a shearing shed.'

Excavation of Wybalenna

In November 1969, Flinders Island members of the National Trust (Tasmania) became interested in a project to save and restore the settlement chapel. Timber additions had been made to the original thick apricot-coloured sandstone brick walls and it was in use as a shearing shed. The owner of Settlement Point was strongly in favour of the project and the salvaging of whole bricks necessary for repair work was begun.

In the course of brick-collecting, the stumps of walls, fire-places and the floors of three terrace rooms were revealed, together with scraps of iron, glass, clay pipe stems and shells of various kinds. By reference to a Skinner Prout engraving of 1846 it became apparent that these rooms were part of a row of terrace houses which must have been the Aboriginal quarters in the early Settlement.

Brick salvaging ceased and a team from the University of Sydney came to investigate the finds, record the site and artefacts and explore the potential of the site as a whole. A combined excavation and site survey took place in January 1971, when the Adult Education Board of Tasmania organised a Summer School in Archaeology on Flinders Island. A further two Aboriginal rooms were carefully excavated, while a survey of the total site was carried out for comparison with Robinson's map of the settlement of 1838 (now in the Mitchell Library, Sydney). Material from this excavation is currently being analysed at Sydney University.

Excavation and Survey Results

The survey of the settlement showed that in general there were surface indications of below-ground structures and occupation which could be identified with every structure marked and labelled on Robinson's map, provided the map is regarded as accurate for the relative positions of the structures but inaccurate for absolute distances and measurements. The map shows that the settlement was well-planned as a self-sufficient community, with houses for the Europeans, hospital, military quarters, gaol, government store, various service areas such as the timber yard, brick-pit, piggery and smithy, and a series of gardens and pastures. Several of the tracks marked on the map can also be traced on the ground, particularly the main track leading from Lillie's Bay, west of the settlement, to the storekeeper's house, then across the neck of the promontory to the marsh and lagoons (where the Aboriginals used to take black swans). At one point beside the track is a clearly marked midden. More tracks no doubt will be seen clearly when the aerial survey is completed, and the boundaries of paddocks and gardens should also become clearer.

Excavation so far has concentrated entirely on the Aboriginal terrace. In addition to the three rooms accidentally cleared in 1969, two further rooms were carefully excavated in 1971 as a check on the earlier material. These rooms had external walls of large limestone blocks with brick thresholds and door jambs. Doors faced east on the Natives' Square. It is evident, from the abundance of artefacts scattered in front of the terrace, that there was much activity around each front door. Shells (often pierced for stringing), marbles, glass beads, pipe stems, and scraps of pottery were common in this area but much less abundant along the back wall of the terrace where there were no doorways or steps to sit on. Each room with its neighbour, shared a chimney stack neatly built of apricot-coloured sandstone bricks probably made on the site. Construction of the fireplaces produced a shallow recess either side of them which, in one room at least, appeared to have been shelved, and to have been used to keep small personal objects—iron knives, spoons, clay pipes, etc.

The floors of these rooms varied. Two of those dug in 1969, and one of the two dug in 1971 had part brick, part wooden floors and in one room some of the bearers and floorboards were preserved. In all three rooms the area under the former floorboards was particularly productive of small objects, including one or two stone and glass flakes which had dropped through cracks or rotted areas in the floor during the Settlement period. In the other two rooms the central area apparently had subsequently been filled in with bricks and both contained much material related to post-settlement use. One room had large quantities of bone material from European stock, the remains of butchering activities presumably related to the later use of the chapel as a shearing-shed.

The style of bricklaying, the solid foundations, fragments of window glass, lumps of lead, brass washers and door handles found near the house thresholds all demonstrate the care and competence with which Robinson had the Tasmanians' quarters built and there is no reason to suppose their high mortality rate was the result of neglect in any form. The contents of the houses so far found equally bear out Robinson's statements of his care for the Tasmanians and his hopes of their gradual assimilation by teaching them civilised living and the value of money by offering paid jobs and a weekly market. Most houses (or front step areas) yielded clay pipe fragments, brass and bone buttons of types from European-style dress, iron pot-hooks, spoons, knives and pannikin fragments, glass beads (predominantly blue-green like the mariner shells traditionally threaded by the Aboriginals) and fragments of 'willow pattern' and other china.

On the other hand, other finds suggested the continuity of at least some Aboriginal traditions. An abundance of shells was found under floors and in front of and behind the terrace. Some tiny blue and green mariners and periwinkles, were pierced for stringing. Other shells found (large limpets, turban, abalones and cartrut) scattered with small marsupial jaws (wallaby and pademelon), confirmed that Robinson's rations (bread, tea, sugar, salt, meat, potatoes, etc.) were supplemented by local supplies. There were also a few roughly made flakes of glass and quartz.

Cooking arrangements at Wybalenna may well have been communal, for one of the rooms excavated in 1969 had a more complex fireplace than the others and included three large cement-lined brick tanks which seem best explained as dough troughs or salt-meat containers. It seems likely, however, that the general impression gained from the Aboriginal quarters at Wybalenna of uniformity and extreme simplicity of personal belongings could be changed by excavation of one of the European occupied structures—perhaps the storekeeper's or chaplain's house.

Future Research

Following completion of the site survey in 1971, any future work on the site will probably concentrate on one or more of the European quarters at Wybalenna. Excavation of these buildings should illustrate the differential in living style and standard (if any) between the Europeans and Tasmanians and will allow investigation of the interrelation of various parts of the settlement. From surface indications, each of the structures has interesting potential. For example the hospital and surgeon's quarters should yield specialist material which could be compared with other nineteenth century medical sites—the hospital at Port Essington (Northern Territory) and Port Arthur; the chaplain's quarters would probably be more representative of a married officer's quarters; and the Government store and storekeeper's quarters might also be expected to yield a broad range of objects.

The commandant's house, of which a plan exists in the Robinson papers and which might well be particularly rewarding, unfortunately was denuded of bricks in the early twentieth century to build the present house. Access to this building is more difficult but it, too, is a possibility for future excavation.

There remain problems to be resolved in work on the Aboriginal terrace, mainly concerned with the dating of the later brick additions in some rooms, and of the later deposits above them.

Further excavation is planned for 1974.

Significance of Wybalenna

The archaeological investigation of the settlement at Wybalenna is significant in several ways. At present it is the only site to have been excavated of those occupied by the Tasmanians in their final post-contact phase and therefore has unique information to offer on how they adapted to their changed circumstances. From written sources it is clear that the mixed group of varying assimilated Aboriginals must, by 1835, have left their original situation and traditional organisation far behind. The mixture of cultural remains at Wybalenna—smashed limpet shells, clay pipe stems, etc.—deserve study for the light they shed upon the swift disintegration of a way of life so long undisturbed.

Wybalenna is a classic Australian instance of an historical archaeological site of the post-contact period. It is a site for which there is an abundance of written data. For this reason it is possible both to check archaeological evidence against more subjectively selected written sources and to assess the contribution of the archaeological material to answers for historical questions which have emerged from the study of contemporary records. In this sense also then it is significant, since the archaeological exploration of such nineteenth century sites is still comparatively young in Australia. Wybalenna is one of only a handful of such sites so far, and offers a promising field for the exploration of both the scope and the limitations of this type of study.

It is apparent that Wybalenna is going to yield a good assemblage of well-dated nineteenth century artefacts, something that is increasingly necessary as the excavation of historical sites continues.

CHRONOLOGY

Preface

The following chronology was compiled in two sections, the period 1642 to 1929 from a document specially prepared by officers of the State Archives, and the period beginning 1930 from a search of contemporary newspapers by Bureau officers.

In the record of more recent years, it was found impossible to describe purely Tasmanian events in isolation since certain national events necessarily form a part of the history of a State within a federal system; particularly is this true with regard to some Commonwealth Government decisions, the state of the economy and industrial arbitration. On the other hand, there is the difficulty of deciding which events of a purely local character are sufficiently important to warrant inclusion. Some items have been introduced not because they are important but because they have a strong local flavour. This difficulty of selection is partly avoided by giving the record of recent years in more detail but inevitably such a policy results in matters of major and minor importance being mingled without distinction. It follows also that the second part of the chronology is limited largely to what the newspapers of the day considered important and that some events of greater significance may have escaped notice.

To round off the picture of any given year, there is a constant temptation to introduce events of world importance; as far as possible, this has been avoided except where such events had considerable local impact. In no way should the record which follows be interpreted as an 'official' chronology of the State; in actual fact, the record derives from two levels of subjective evaluation, firstly, the selection of items of importance by contemporary journalists, and secondly, the further selection of items from this narrowed field by the compilers of the chronology.

Chronology of Events from First Discovery of Tasmania

- 1642 Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted west coast and named his discovery 'Anthony Van Diemenslandt'. Landings on Forestier Peninsula and near Blackman Bay on east coast.
- 1772 Landing of a party from Du Fresne's expedition at Marion Bay and affray with the Aborigines.
- 1773 Tobias Furneaux, in the *Adventure*, became separated from James Cook in *Resolution* and landed party at Adventure Bay.
- 1777 James Cook anchored *Resolution* in Adventure Bay on third expedition.
- 1788 William Bligh anchored *Bounty* in Adventure Bay on first breadfruit expedition.
- 1789 John Henry Cox sailed *Mercury* from Cox Bight to Maria Island.
- 1792 William Bligh, on second breadfruit voyage, anchored *Providence* in Adventure Bay. Bruny D'Entrecasteaux, commanding *La Recherche* and *L'Esperance*, discovered D'Entrecasteaux Channel and charted south-east coast.
- 1793 D'Entrecasteaux returned for further exploration of south-east coast. John Hayes, commanding *Duke of Clarence* expedition, explored Derwent River.
- 1798 Matthew Flinders and George Bass circumnavigated Tasmania.
- 1802 Nicholas Baudin, commanding *Geographe* and *Naturaliste*, explored south-east coast.
- 1803 John Bowen's party of 49 made first settlement at Risdon Cove.
- 1804 David Collins' settlement party landed at Sullivan's Cove (Hobart). Aborigines killed in an affray at Risdon. Risdon settlement closed down. William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).
- 1805 Collins forced by famine to cut rations by one-third.
- 1806 Settlers moved from York Town to Launceston area (Tamar Estuary).

- 1807 Thomas Laycock's party crossed island overland from Port Dalrymple to Hobart. First Norfolk Island settlers shipped to Hobart in *Lady Nelson*.
- 1809 Governor William Bligh aboard *Porpoise* anchored in Derwent after N.S.W. mutiny and embarrassed Collins with problem of jurisdiction.
- 1810 Lieutenant-Governor Collins' death. Issue of the newspaper *Derwent Star*.
- 1811 Governor Lachlan Macquarie's first visit to Tasmania.
- 1812 Lieutenant-Governor Thomas Davey arrived. Northern settlement at Port Dalrymple made subordinate to Hobart. *Indefatigable* brought first shipload of convicts direct from England.
- 1815 Hobart and Port Dalrymple declared free ports for import of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated island in a whaleboat.
- 1816 First issue of *Hobart Town Gazette*.
- 1817 Succession of William Sorell as Lieutenant-Governor.
- 1818 Death of Michael Howe, notorious bushranger.
- 1820 Visit by John Thomas Bigge to conduct his enquiry into colonial administration.
- 1821 Second tour by Governor Macquarie.
- 1822 Penal settlement established at Macquarie Harbour.
- 1823 Passage of British Act 'for the better administration of justice in N.S.W. and Van Diemen's Land'.
- 1824 Inauguration of Supreme Court. Arrival of Lieutenant-Governor George Arthur.
- 1825 First Launceston newspaper, the *Tasmanian and Port Dalrymple Advertiser*, established. Tasmania constituted a colony independent of N.S.W. Establishment of appointed Executive and Legislative Councils. Departure of Governor Darling from Tasmania left Arthur with the authority of Governor (but not the title).
- 1826 Van Diemen's Land Co. sent first party. Appointment of Commissioners of Survey and Valuation.
- 1827 Colonial Act passed for the regulation of the colonial press—disallowed. Lieutenant-Governor received petition for trial by jury and some representation in Legislative Council.
- 1828 Passage of British Act 9 Geo. IV, cap. 83 which increased membership of Legislative Council. Martial law proclaimed against Aborigines.
- 1830 George Augustus Robinson began his mission to conciliate the Aborigines. First use of juries in civil cases. Beginning of the 'Black Line', the military campaign to round up the Aborigines. First volume of *Quintus Servinton*, first novel to be published in Australia. Port Arthur established as a penal settlement.
- 1831 Approval of British Government's new land regulations discontinuing free grants of land, and replacing them with land sales.
- 1832 First shipment of Aborigines to Straits islands. Establishment of the Caveat Board to settle land disputes and to confirm titles. Maria Island closed down as a penal settlement.
- 1833 Macquarie Harbour penal settlement closed down.
- 1834 Henty brothers from Launceston became first settlers in Victoria occupying land in Port-land Bay area.
- 1835 John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania divided into counties and parishes. Opening of Ross Bridge. Population estimated as 40,172 persons.
- 1837 Arrival of Sir John Franklin and assumption of office as Lieutenant-Governor.
- 1838 Sessions of Legislative Council opened to the public.
- 1840 Cessation of transportation to N.S.W. and consequent increase in numbers transported to Tasmania. Population estimated as 45,999 persons.

- 1841 Assignment System of convict discipline replaced by the Probation System. Rossbank Observatory for magnetic and meteorological observations established.
- 1842 Tasmania created a separate Anglican diocese. Hobart made a city. Peak year for convict arrivals (5,329).
- 1843 Recall of Sir John Franklin and succession of Sir John Eardley-Wilmot.
- 1844 Transfer of Norfolk Island penal settlement from N.S.W. to Tasmanian control.
- 1845 Resignation of the 'Patriotic Six' members of the Legislative Council, opposing the heavy expenditure of colonial revenue for Imperial police charges.
- 1846 Recall of Wilmot. Foundation of the Launceston Church Grammar and The Hutchins Schools.
- 1847 Succession of Sir William Denison. The Lieutenant-Governor re-appointed the 'Patriotic Six', dispensing with those who had replaced them as Legislative Councillors.
- 1848 Tasmania now the only place of transportation in the British Empire.
- 1850 Foundation of the Anti-Transportation League. Population estimated as 68,870 persons.
- 1851 British Act 'for the better governing of the Australian colonies' reached Tasmania; provided for limited representative government. First elections for 16 non-appointed members of the Legislative Council.
- 1852 First payable gold found near Fingal. Elections held for first municipal councils in Hobart and Launceston.
- 1853 Arrival of last convicts to be transported.
- 1854 Bad floods throughout colony. Passage of Bill establishing responsible government.
- 1855 Succession of Sir Henry Fox Young; title now Governor. British Government approved Constitution Bill.
- 1856 Name of Van Diemen's Land changed to Tasmania. Opening of new bi-cameral Parliament with W. T. N. Champ leading first government in the House of Assembly. Re-organisation of Police Department.
- 1858 Council of Education set up. *Rural Municipalities Act* passed.
- 1859 Charles Gould appointed to make geological survey of western Tasmania. Telegraph established as link with Victoria.
- 1860 Population estimated as 89,821 persons.
- 1861 Succession of Colonel Thomas Gore Browne. Telegraph cable to Victoria failed.
- 1862 Promotion of scheme for a railway between Launceston and Deloraine.
- 1864 Arrival of first successfully transported salmon ova.
- 1868 Visit by Alfred, Duke of Edinburgh. Bill passed making primary education compulsory.
- 1869 Succession of Charles Du Cane. Death of William Lanne, thought to be last male full-blood Aboriginal. Death of Sir Richard Dry. New cable laid to Victoria.
- 1870 Withdrawal of remaining Imperial troops.
- 1871 Opening of Launceston-Deloraine railway.
- 1872 Contract concluded for building Main Line Railway.
- 1873 Main Line Railway construction began. Tin discovered at Mt Bischoff. Start of economic recovery.
- 1874 Riots in Launceston in protest at rates levied for Launceston-Deloraine railway.
- 1875 Succession of Sir Frederick Weld.
- 1876 Race meetings established at Elwick. Gold nugget worth \$12,200 found at Nine Mile Spring. Death of Trugannini, thought to be last female full-blood Aboriginal. Main Line Railway opened for traffic.
- 1877 Port Arthur closed down as a penal settlement.

- 1878 Increased activity in exploration of West Coast.
- 1879 Settlement of constitutional issue known as the 'Hunt Case'. Rich lode of tin discovered at Mt Heemskirk.
- 1880 First telephone in Tasmania with line from Hobart to Mount Nelson Signal Station.
- 1881 Purchase of three diamond drills by government for hire to private prospectors. Succession of Sir George Strahan.
- 1882 Increased prospecting on West Coast.
- 1883 Discovery of the 'Iron Blow' at Mt Lyell.
- 1885 Russian war scare followed by activity in improvement of defences. Formation of Mt Lyell Prospecting Association.
- 1886 Adye Douglas, Tasmanian Premier and President of the Federal Council, spoke in favour of Australian republicanism.
- 1887 Succession of Sir Robert Hamilton.
- 1890 Establishment of University of Tasmania.
- 1891 Collapse of Van Diemen's Land Bank; deep economic depression.
- 1892 Mt Lyell Mining Co. established.
- 1893 Succession of Viscount Gormanston.
- 1896 Establishment of Tattersalls Lottery by George Adams.
- 1897 Record shade temperature of 40.6° Celsius (105.5°F) at Hobart on 30 December.
- 1898 Serious bush fires. Polling four to one by Tasmanians in favour of Federation.
- 1899 Departure from Hobart of *Southern Cross* (Borchgrevinck) expedition to Antarctic.
- 1900 Departure of Tasmanian contingents to fight in the Boer War.
- 1901 Proclamation of the Commonwealth read. Polling for first elections to Federal Senate and House of Representatives. Succession of Sir Arthur Havelock.
- 1903 Celebration of 100 years' settlement cancelled because of smallpox epidemic in Launceston. Suffrage extended to women.
- 1904 Succession of Sir Gerald Strickland at reduced salary.
- 1905 Experiments in wireless telegraphy between Tasmania and the mainland and between Tasman Island and Hobart.
- 1906 Visit by Ramsay MacDonald (later British Prime Minister).
- 1907 New Public Library opened; built with gift from Andrew Carnegie.
- 1909 Succession of Sir Harry Barron. Potato crop wiped out by Irish blight. State's first Labor Government under John Earle.
- 1912 Disasterous fire at North Lyell Mine, Queenstown.
- 1913 Succession of Sir William Ellison-Macartney.
- 1914 First aeroplane flight in Tasmania. Departure of first Tasmanian contingent to fight in Great War. Second State Labor Government formed under John Earle. Formation of Hydro-Electric Department.
- 1915 Serious bushfires.
- 1917 Establishment of electrolytic zinc works at Risdon and of Snug carbide works.
- 1918 End of Great War.
- 1919 First export of frozen meat.
- 1920 Visit by Edward, Prince of Wales. Purchase of site for Cadbury's chocolate factory at Claremont.
- 1921 Population 213,780 persons (Census).
- 1922 Completion of Waddamana power station.

- 1924 First superphosphate manufactured by Electrolytic Zinc Co. at Risdon.
- 1925 Discovery of osmiridium fields at Adamsfield.
- 1927 Enquiry into proposed bridge over Derwent. Visit by Duke and Duchess of York.
- 1929 Serious floods throughout island. Establishment of automatic telephone system in Hobart. Beginning of economic depression.
- 1930 Export prices fell to half 1928 level. Australian pound devalued so that £ sterling equalled £A 1.25 (\$A 2.50).
- 1931 Depression continued—10 per cent cut in Federal basic wage. Initiation of austere Premier's Plan. Conversion loan to reduce rate on internal Federal debt by 22½ per cent. Census of population deferred due to economic crisis.
- 1933 Commonwealth Grants Commission appointed to enquire into affairs of claimant States.
- 1934 Labor Ministry of A. G. Ogilvie first in 35 years of continuous Labor Governments. Second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936 Tasmania linked with Victoria by submarine telephone cable.
- 1937 Epidemic of poliomyelitis. Economic recovery evidenced by \$0.50 'prosperity' loading added to Commonwealth basic wage.
- 1938 Paper mill using native hardwoods established at Burnie. First turbines began operating at Tarraleah power station.
- 1939 Outbreak of World War II.
- 1940 Tasmanians sailed for Middle East with Australian 6th, 7th and 9th Divisions.
- 1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with Australian 8th Division.
- 1942 Uniform Federal income tax commenced.
- 1943 The floating-arch Hobart Bridge opened for traffic.
- 1944 Pay-as-you-earn income taxation introduced from 1 July.
- 1945 End of World War II.
- 1946 Cessation of man-power controls. Rejection by Legislative Council of bill to grant Federal Government price control powers for three years. Crash of DC₃ airliner at Seven Mile Beach with 25 deaths.
- 1947 Court action to stop bank nationalisation by Federal Government. Demobilisation of forces completed. 'Displaced persons' commenced arriving from Europe.
- 1948 Forty-hour week awarded to most workers from 1 January. Tasmanians voted 'No' almost two to one in referendum denying Federal Government power over prices and rents. State price and rent controls introduced. Legislative Council's denial of supply forced dissolution of House of Assembly—Cosgrove ministry returned to power.
- 1949 Compulsory X-ray introduced in fight against tuberculosis. Clark Dam at Butlers Gorge completed. Theatre Royal purchased by the Government. Port of Hobart held up by 29-day strike; coal supplies cut off by major strike on N.S.W. coalfields and at Tasmanian mines. Sterling devalued by 30.5 per cent and Australian pound similarly devalued.
- 1950 End of Federal petrol rationing. Dissolution of House of Assembly granted by Governor and Cosgrove ministry returned to power. Start of Korean War. *Communist Party Dissolution Bill* passed by Federal Parliament.
- 1951 *Communist Party Dissolution Act* declared invalid by High Court. Double Dissolution of Federal Parliament. Part of Macquarie Harbour frozen over on 2 July. First intake of National Service trainees entered Brighton camp. Referendum to give Commonwealth powers in regard to communism—'No' vote prevailed although Tasmanians expressed slight preference for 'Yes'.
- 1952 Single licensing authority established for hotels, clubs, etc. First women elected to Hobart City Council. Two women elected to Legislative Council. State free hospital scheme ceased. Rejection by Legislative Council of bill to give State aid to private schools.

- 1953** In September, Court abandoned system of quarterly adjustment of Federal basic wage. Special Premier's conference discussed return of income tax powers to States but no action followed. Armistice in Korea. State Wages Boards decided to follow Federal Court in suspension of quarterly basic wage adjustments.
- 1954** Royal visit by Queen. Completion of Trevallyn tunnel for hydro-electric power. Menzies government re-elected. Rationing of electric power ended. State prices control organisation disbanded. Bill passed to resolve deadlocks in House of Assembly. Foundation of the Metropolitan Transport Trust.
- 1955** Uranium ore discovered at Mt Balfour and Royal George. Bell Bay aluminium plant officially opened. Cosgrove ministry returned to power without effective majority. First women (two) elected to House of Assembly. Australia's first capital city parking meters installed in Hobart. Trevallyn and Tungatinah schemes officially opened. Anti-Communist Labor Party (later D.L.P.) formed in State. Tasmania's first woman mayor (Launceston) elected. Menzies government returned.
- 1956** State Wages Boards' restoration of 'cost-of-living' adjustments effective from 1 February. Watersiders strike at Tasmanian ports for 22 days. State Wages Boards again suspended cost-of-living adjustments. Sir Ronald Cross granted dissolution of House of Assembly. Labor Party returned to power in State. Official opening of E.Z. Co's sulphate of ammonia plant. Centenary of self-government celebrated.
- 1957** Parking meters introduced in Launceston. Legislative Council rejected bill giving aid to private schools. First space satellites—Sputniks I and II—seen over State. Commonwealth announced greater financial aid to Universities, following Murray Report. Centenary of Hobart's incorporation celebrated.
- 1958** Bad floods in Derwent Valley. Establishment of Rivers and Water Supply Commission. Mr Cosgrove succeeded by Mr Reece as Premier. Menzies government re-elected. Public Service Tribunal established as an industrial authority. Armed Forces Food Science Establishment commenced operations at Scottsdale.
- 1959** Dissolution of House of Assembly. First election to fill 35 seats in House of Assembly; Labor re-elected. New Commonwealth system of grants reduced claimant States to two—Tasmania and Western Australia. *Princess of Tasmania* commenced roll-on roll-off ferry service Melbourne to Devonport. One-way street traffic plan introduced in Hobart.
- 1960** Liapootah power station commissioned. Zeehan-Strahan railway closed. Inland Fisheries Commission created. First Tasmanian telecast. In football, Tasmania defeated the V.F.L. Negotiations begun for sale of Commonwealth interest in Bell Bay aluminium plant. Australian 'give way to the right' rule introduced. Hobart trams ceased running. *Bass Trader*, a trailer-container vessel, launched.
- 1961** Government initiated plan for bulk water supplies to west bank of Derwent. *William Holyman*, cargo container vessel, entered Bass Strait trade. Construction started for Hobart-Sydney ferry terminal. Legislative Council rejected equal pay legislation. Menzies government re-elected.
- 1962** Catagunya turbines began producing electricity. State Wages Boards granted three weeks' annual leave. State subsidies announced for municipal fluoridation schemes. Closure of Mt Lyell Railway, Queenstown to Strahan. West Derwent Water Scheme inaugurated.
- 1963** Speed limit in built-up areas increased from 30 to 35 mph. Abolition of State entertainments tax. Federal court increased margins 10 per cent and granted three weeks' annual leave. Trans-Derwent ferries ceased operating. Universities Commission recommended medical school for Tasmanian University. *Seaway Queen*, trailer and container ship, launched. Menzies government returned with substantial majority.
- 1964** T.A.A. commenced intrastate air services. Industrial power cuts ended. Alginate plant began operations on east coast. Labor re-elected at State elections. Federal Court reduced long service leave qualifying period from 20 to 15 years. *Seaway Queen* began

- Melbourne-Hobart operations. Tasman Bridge opened for traffic and Hobart Bridge towed away. *Seaway King* began Sydney-Hobart operations. Hobart's water supply fluoridated. One-way street scheme introduced in Launceston. Glenorchy raised to city status. Compulsory National Service on selective basis introduced.
- 1965** *Empress of Australia* sailed from Sydney on first voyage to Hobart. Provisional driving licences introduced. Dental nurse scheme for schools announced. Battalion of Australian troops sent to South Vietnam. D'Entrecasteaux scallop beds closed for 1965 season. New Shops Act extended Saturday morning closing to Hobart's eastern suburbs. Report of Municipal Commission recommended reduction of local government authorities from 49 to 20. Australian woolgrowers voted 'No' in referendum on Reserve Price Scheme; Tasmanians voted marginally 'Yes'.
- 1966** *Freya* won Sydney-Hobart race for third time (a record). Decimal currency introduced 14 February. Burnie-Launceston co-axial cable completed. \$62m Savage River iron-ore agreement signed. Equal pay for certain State Public Service females. Breathalyser tests approved for use by police. Holt Liberal Government returned with record majority. S.T.D. extended to Tasmania. Lake Meadowbank filled.
- 1967** Bush fire disaster of 7 February resulted in 62 deaths and over 1,000 houses destroyed. Petition presented against proposed flooding Lake Pedder as part of Gordon hydro-electric scheme. Federal Arbitration Commission abolished basic wage and substituted total wage concept; awarded \$1.00 increase to males and females. Mt Cleveland tin mining town of Luina completed. Tasmanian State Wages Boards retained basic wage in their awards. H.E.C. water reserves only 16 per cent of normal; introduction of daylight saving and power rationing to conserve power. First iron-ore slurry pumped from Savage River to Port Latta. U.K. devalued pound sterling by 14.3 per cent; Australia did not devalue. Senate election resulted in State representation of: two A.L.P., two Liberal, one independent. Deadlock between two Houses ended legislative control of shopping hours.
- 1968** Royal Hobart Hospital acquired State's first artificial kidney machine. H.E.C. Repulse dam on Lower Derwent completed. Asthma survey of school children undertaken. Federal dairy industry reconstruction announced. E.Z. Co. announced plans for sulphuric acid plant at Burnie. Contract let for H.E.C. Bell Bay thermal plant. H.E.C. water storages at record low level. Batman Bridge across lower Tamar opened. Federal Government subsidy for apples and pears exported to U.K. and other countries which devalued their currency in 1967. Tasmanian Public Service Tribunal ruled women teachers entitled to equal pay (by 1972 in stages as prescribed in State Act). Mt Lyell blister copper shipped to Port Kembla (N.S.W.). State receipts tax one cent in each \$10 imposed (wages and salaries exempted). Traces of oil and natural gas discovered in Tasmanian part of Bass Strait. Full adult suffrage for Legislative Council elections from 1 July 1969. Capital punishment abolished. 'Yes' vote prevailed in 'Casino Referendum'; *Wrest Point Casino Licence and Development Bill* passed by Legislative Council.
- 1969** Parangana Dam (Mersey-Forth scheme) completed. Commissioner of Trade Practices cited Tasmanian Breweries Pty Ltd to appear before the Trade Practices Tribunal. Mr Reece set record for continuous service as a State Premier. Commonwealth Road Grants increased under revised formula. North-West General Hospital opened at Burnie. Naracoopa Rutile Ltd commissioned processing plant at Naracoopa, King Island; company to mine beach sand for rutile, zircon and other minerals. Hobart's first preservation order taken out on four houses in Battery Point. Tamar Regional Valley Planning Authority formed. State election resulted in 17 A.L.P., 17 Liberals, one Centre Party (Mr Lyons). Mr Lyons combined with Liberals to form coalition government; ended 35-year Labor rule in Tasmania. Full Bench of Federal Arbitration Commission Granted equal pay to females performing equal work; female salaries to be raised to male salaries in stages. U.S. astronaut took man's first step on the moon on 21 July. Launceston Teachers College officially opened. Narrow Federal election victory to Liberal-Country

Party coalition; Tasmanian representation four A.L.P., one Liberal. Kidney transplant operation performed at Royal Hobart Hospital. Gordon River power station diversion tunnel completed. Copper smelter at Mt Lyell closed; concentrate sent to Japan and Port Pirie (S.A.) for treatment.

1970 International cadet world championships held on Derwent. \$1m bulk cargo berth completed at port of Burnie. Tasmanian primary schools to begin teaching metric system. Tarooma Marine Research Laboratory officially opened. Broadband telecommunications link established between Smithton and King Island (provided telephone and television relay facilities). High Court ruling invalidated Victorian and W.A. receipts tax. First pyrites railed from Rosebery to Burnie sulphuric acid plant. Work commenced at Selfs Point on second stage of Hobart's sewerage treatment scheme. E.Z. Co. to establish \$6.3m residue treatment plant. No mining exploration licences to be granted for Macquarie Island (flora and fauna reserve). Royal visit. Forester kangaroo in danger of extinction on Tasmanian mainland. Federal ban on export of snook (barracouta) lifted. H.E.C. completed 60-foot high coffer dam on Gordon River in four days at rate of six to eight inches per hour using the 'slipform' process; first time process used in Australia for dam construction. Hobart police supplied with portable two-way radios. Parliament legislated to introduce permanent daylight saving from last Sunday of October to second Sunday in March. Microwave telecommunication link with W.A. completed allowing direct television relays across the continent; Tasmanians able to make S.T.D. calls to Perth W.A. University's neutron monitoring station opened on Mt Wellington replacing station destroyed in 1967 bushfires. First shipment of export containers from Hobart on feeder ship to link up with Australia-Europe container service. First double kidney transplant performed at Royal Hobart Hospital. State Premiers accept Tasmanian formula for reimbursement in lieu of receipts duty. Construction of oil-poppy processing plant commenced at Latrobe. T.A.B. proposal rejected. Board of inquiry into Tasmanian fruit industry recommended single marketing authority for export apples and pears. Completion of removal of Garden Island from Tamar River enabling larger vessels to enter river.

1971 National Wage Case increase in total wages of six per cent granted. Over-the-counter sale of bromides to be banned in Tasmania. All new cars registered in Tasmania after 1 January 1971 to have seat belts fitted to front and rear seats; removal of seat belts from cars registered on or after 1 January an offence. World championship international dragon class yachting titles held in Hobart. Centenary celebrations for Tasmanian railways. University of Tasmania to limit future student intakes. Tasmania to participate in Federal rural reconstruction scheme. Launceston supermarket fined for selling cooking margarine containing artificial colouring. Fluoridation equipment installed at Burnie (first N.W. Coast town to have fluoridated water supply). State Government to meet full costs of freeways and expressways; local government authorities to save considerable sums previously spent as their share of the costs. Port of Launceston Authority's current port improvement scheme completed. Proposed \$114m H.E.C. Pieman scheme announced. Mr William McMahon succeeded Mr John Gorton as Prime Minister. \$25m A.P.P.M. Ltd Wesley Vale paper plant opened. \$9m expansion programme at Comalco (Bell Bay) completed; production capacity raised to 94,000 tons per annum making it the largest aluminium smelting plant in Australia. Contract for Launceston Gorge Bridge awarded. State Government granted service payments to employees; move affected approximately 3,000 tradesmen. Commonwealth Industrial Gases expansion programme at Launceston plant commenced. Currie (King Island) \$581,000 hospital complex commenced. Australia's oldest telephone trunk exchange, New Norfolk, closed. Animals and Birds Protection Board revealed illegal trafficking in native wild life. A.N.M. announced expansion programme for Boyer to lift annual production to 200,000 tons of newsprint. End of shipping strike; A.C.T.U. to give Tasmania special consideration in event of future shipping strikes. Devonport council opposed fluoridation of its water supply. Victoria Bridge at Devonport officially opened. Federal Government to provide financial assistance for Bell Bay rail link. Victoria, Queensland, A.C.T. and N.S.W.

join Tasmania with daylight saving. Official inquiry into running of Launceston General Hospital. Australian troops to be withdrawn from Vietnam by Christmas; national service reduced to 18 months. Tasmanian, Lindy Goggin, won Australian women's golf title; first Tasmanian to win since 1913. Pak Poy report dealing with Tasmanian transport system released. Tasmanian prison remissions increased from one quarter to one-third of sentence. Census of Population—Tasmania 389,874 persons (preliminary).

Chapter 2

PHYSICAL ENVIRONMENT

GENERAL DESCRIPTION

Location and Area

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian continent; the major island is called Tasmania and the more important of the lesser islands include King, Flinders and Bruny. Roughly heart shaped with the greatest breadth in the north, Tasmania extends from $40^{\circ} 38'$ to $43^{\circ} 39'$ South latitude and from $144^{\circ} 36'$ to $148^{\circ} 23'$ East longitude. The coastline is bounded by the Indian Ocean in the west and the Pacific Ocean in the east while Bass Strait separates the island from the Australian mainland by approximately 150 miles. Macquarie Island, a part of the State, is situated in 54° South latitude and is bounded by the Southern Ocean.



Relief Map

The area of the whole State, including the lesser islands, is 26,383 square miles or about 0.9 per cent of the area of the Australian Commonwealth (2,967,909 sq. miles); it is just under one-third the size of Victoria, the smallest mainland State.

Australia, extending as it does well north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent continent. Because Tasmania is the most southern State of the Commonwealth, there is a tendency to think of it as being close to the Antarctic but its latitude is matched, in the northern hemisphere, by that of Madrid (Spain) and Pittsburgh (U.S.A.). In addition, as Tasmania is an island it is sheltered from the extremes of heat and cold experienced in these two centres. The effect of its insular position is illustrated by the variation between summer and winter mean temperatures in coastal towns—this rarely exceeds 8° Celsius (15°F). Comparing Hobart (Tasmania) with Melbourne (Victoria), mean maxima are some 3° Celsius (6°F) warmer and mean minima 1.5° Celsius (3°F) warmer in the Victorian capital.

Apart from the Great Dividing Range in the east, Australia is predominantly a land of low plateaux and plains with little relief. By way of contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country in its total area, compared with the other States. The distinctive feature of the island is not so much the size of the mountains—few exceed 5,000 feet—but rather the frequency with which they occur. The British Admiralty Pilot Book describes Tasmania as 'probably the most thoroughly mountainous island on the globe'.

Population Distribution

With a population of about 390,000, Tasmania is still thinly populated although its density of 15 persons per square mile is exceeded only by Victoria among the Australian States. Asian comparisons are Japan, 717 persons per square mile; Mainland China, 199; Indonesia, 202.

A marked characteristic of the mainland States of the Commonwealth is the very high concentration of population in their respective metropolitan areas, Brisbane providing the only example where this concentration falls below 50 per cent of the State's total population. In contrast, the Tasmanian population is concentrated in two main areas: (i) Urban Hobart, with about 32 per cent; and (ii) Urban Launceston with about 16 per cent. This deviation from an Australian pattern is partly explained by the relative proximity of Launceston to the principal mainland markets. However, terrain and climate have also had a large influence on the distribution of the State's population. A convenient way to summarise, in approximate terms, the present pattern of settlement is to imagine three circles of 25 mile radius centred on Hobart (representing the south-east), Launceston (the north) and Ulverstone (the north-west): (i) with Hobart as centre, 43 per cent of the Tasmanian population is located within the 25 mile circle; (ii) with Launceston as centre, 21 per cent; (iii) with Ulverstone, 18 per cent. Since all circles are exclusive of each other, these three defined areas together contain more than 82 per cent of the State's population and this fact justifies the generalisation that the main settlement is in the south-east, the north and the north-west. Residual population not included in the three defined areas is mainly located in the more distant north-west and north-east, in the midlands between Hobart and Launceston, on King and Flinders Islands and along the east coast. Even a 50-mile circle with Queenstown as centre includes only three per cent of the State's population and here the activity is mining, not farming, since this is predominantly an area of high mountains and heavy rainfall. The south-west is almost completely uninhabited except for isolated prospectors and the Hydro-Electric Commission village of Strathgordon; the central plateau, where the main activities are summer grazing and hydro-electric power generation, is very sparsely populated.

Economic Development

In the nineteenth century, the basic economic activities were farming, mining, forestry and fishing (with whaling of prime importance in the first half of the century). In the twentieth century, evolution of secondary industry was at first inhibited by two major factors—the small local market and the relative advantage enjoyed by competitors located closer to the principal mainland markets. There were, however, two geographical features of the island which could be utilised to offset these disadvantages, namely a mountainous terrain and an assured rainfall. Taken together, these two factors mean cheap electric power (if the necessary investment is made in dams and generating stations). It has been estimated that Tasmania has at least half of the total Australian hydro-electric potential. As a result of continuous power development over the last three decades by the Hydro-Electric Commission, turbines in use can now generate 1.31 million kilowatts and work is still proceeding on harnessing fresh sources. Development of the Gordon River power potential is in an advanced stage and with completion of this scheme in 1975 total generating capacity will be increased to almost 1.8 million kilowatts. The abundance of cheap electric power has led to the establishment of a number of major industrial plants and has transformed the island's economy, which was once heavily dependent on primary industry.

PHYSIOGRAPHY

Introduction

Tasmania is an island of mountains and is unique among Australian States in being predominantly influenced by polar maritime air masses. From the point of view of settlement and development, these two factors have combined to create assets against which must be weighed certain liabilities. The island, a mere 180 miles from north to south and 190 miles from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes and tarns, of forest, moorland and grassland, of towns, farms and uninhabited (and virtually unexplored) country. The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison—the pattern of agricultural settlement with orchards, hedges and hopfields; the Lake Country; the early freestone architecture still common in the east; the roads and villages dotted with oaks, elms and poplars. Nature and the early settlers have provided the assets for a flourishing tourist industry which is currently being vigorously developed. Assured rainfall and mountain storages have also given birth to massive development of hydro-electric power and, indirectly, to industry. The growth of forests, too, is promoted by suitable rainfall and temperature, and this forms the basis for industries such as timber-milling and newsprint and other paper production.

The mountainous nature of the island is confirmed by survey which shows six features exceeding 5,000 feet, 28 exceeding 4,000 feet and a further 28 exceeding 3,000 feet. The highest mountain is Mt Ossa (5,305 feet) some 10 miles north-west of Lake St Clair, and north-west again from this peak lie Mt Pelion West (5,100 feet), Barn Bluff (5,114 feet) and Cradle Mountain (5,069 feet); the furthest distance, 15 miles, is from Mt Ossa to Cradle Mountain. In the Ben Lomond area, the principal features are Legges Tor (5,160 feet) and about six miles south, Stacks Bluff (5,010 feet). Each of these mountainous regions and a number of others have been set aside as National Parks, two of which, Ben Lomond and Mt Field, are renowned for winter sport.

Water Resources and Rainfall

Fresh-water navigation has played very little part in Tasmania's development, the rivers being too fast-running, shallow or short. Of the four major ports, three are located on tidal estuaries—Hobart on the Derwent; Launceston on the Tamar; Devonport on the Mersey (Burnie has built a port, on the open sea, protected by breakwaters). Rivers, however, are

significant for three reasons: (i) use of headwaters for electricity generation; (ii) domestic and industrial water supply; (iii) irrigation. Hobart for example draws much of its water supply direct from the upper Derwent River without use of a dam and the flow is adequate to serve a population at least ten times greater than that at present. The development of hydro-electric power has been based on full utilisation of the sources and tributaries of the Derwent with a chain of power houses stretching from Poatina on the Great Lake to Meadowbank only 32 miles from Hobart. At Launceston, too, the waters of the South Esk have been harnessed at Trevallyn. In the north-west, the Mersey-Forth Scheme exploits the Fisher, Mersey, Wilmot and Forth Rivers in a development spread over approximately 800 square miles. This does not exhaust the possibility of future development, as work on the Gordon-Serpentine system in the south-west is proceeding and other systems have been planned.

To obtain a true perspective, it should be appreciated that large areas of the State cannot be cultivated because there is too much rainfall (in contrast with the mainland of Australia where often the reverse situation applies). Further, the mountainous terrain and accompanying high-land climate have restricted farming to relatively small areas of suitable country, mainly river valleys, coastal plains and the lower plateaux. In 1971, farm statistics showed that 38.5 per cent of the State's area was occupied by rural holdings. Only 3.1 per cent of the area of rural holdings was under crop and a further 31.7 per cent under clover and grasses (other than native). The remaining 65.2 per cent of rural holdings included bush runs, uncleared scrub or possibly land unsuitable for any rural purpose at all. A high proportion of the State's area not included in rural holdings is composed of forests, national parks and lakes.

Physiographic Regions

To explain the pattern of settlement, it is necessary to isolate the various physiographic regions of the State as follows:

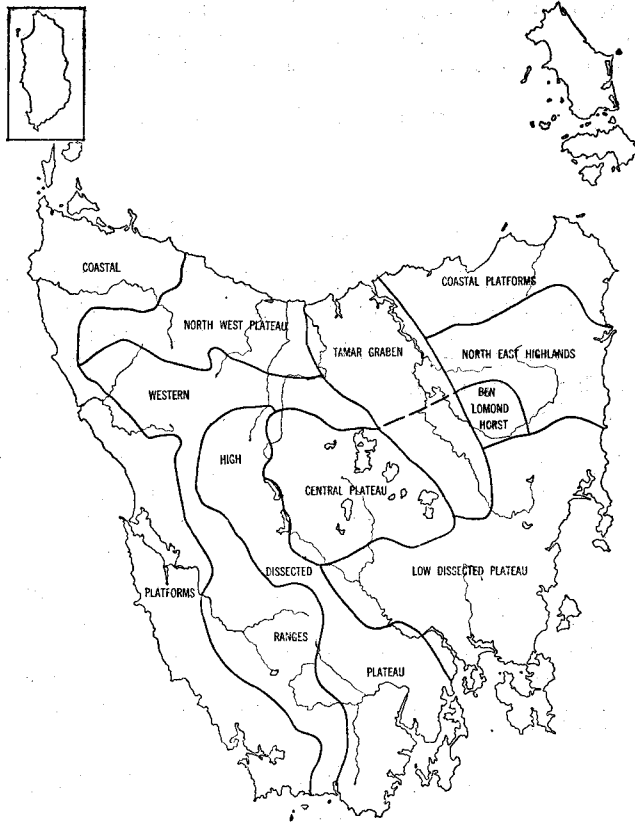
Central Plateau: The main feature is a relatively undissected, dolerite-capped plateau sloping generally south-eastward from an average level of 3,500 feet in the north to 2,000 feet in the south, and drained almost wholly by the Derwent system. The northern and eastern boundaries of the Plateau are the Great Western Tiers (paradoxically named since they lie in the central north of the island). This is known as the Lake Country of the island and is the chief source of hydro-electric power.

High Dissected Plateau: West of Lake St Clair, dolerite caps steeply-tilted sediments and the plateau is much dissected; it comprises a series of peaks and broken ridges. The coastlands in the extreme south of the region are rugged but in the D'Entrecasteaux Channel and Huon River areas, narrow coastal belts have been devoted to specialised agriculture.

Western Ranges: The high dissected plateau is bound by a mountainous series of ranges running parallel to the west coast and in this region are located the principal mines of the State. The south of the region is completely uninhabited except for construction workers on the Gordon power scheme.

Western Coastal Platforms: Throughout almost the entire length of the west coast, an uplifted and much dissected peneplain slopes westward from about 900 feet to end abruptly in cliffs more than 100 feet high. In the south of this region, superhumid button grass plains predominate, and the area is uninhabited. On the coastal plain south of the Arthur River, however, dairy cattle are wintered on agistment runs while north of the river, dairying begins to appear and swamps formed by recent emergence have been cleared for farming.

North-West Plateau: North of the Western Ranges lies a plateau averaging nearly 2,000 feet and important mainly for forestry; the coastlands derive mainly from basalt, giving rise to intensive mixed farming based on dairying, potatoes and crops for canning and freezing, such as peas and beans.



(The above regions derive from a classification by J. L. Davies, M.A., Ph.D., University of Tasmania.)

Tamar Graben: This graben (rift valley) is the largest plain and the leading agricultural and pastoral district in the State; it ends in the drowned inlets of the Tamar and Mersey estuaries and Port Sorell in the north.

North-East Coastal Platforms: This region consists of undulating lowland but the soils are acidic and the land is used only for grazing.

North-East Highlands and Ben Lomond Horst: This region comprises mostly uplifted remnants of old fold mountains dominated by the 5,000 foot dolerite-capped plateau horst of Ben Lomond, an outlier of the Central Plateau. Here agriculture is largely confined to small basalt-derived basins. Some minerals are worked.

Low Dissected Plateau: In the south-east lies a low dissected dolerite plateau averaging perhaps 1,200 feet and used mainly for grazing. The northern coastlands of this region are narrow and also devoted to sheep, but the southern coastland is important for its specialised agriculture. At the extreme south of the region is the drowned estuary of the Derwent and the Tasman and Forestier Peninsulas.

DESCRIPTION OF STATISTICAL DIVISIONS

Introduction

Earlier in this chapter the State of Tasmania was briefly described by analysing its terrain in terms of physiographic regions. For statistical purposes, the State is also analysed in divisions but these do not necessarily coincide with physiographic regions, one reason being that the former

are basically groupings of whole municipalities. The traditional Tasmanian statistical divisions, in use for over 50 years, were exposed to searching scrutiny in 1971 and the decision was taken to introduce a new structure, beginning with tabulations produced after 1 July 1972.

A detailed description of the divisions in their traditional form appears in the 1971 *Year Book*.

History of Statistical Divisions

The grouping of administrative areas into divisions for statistical purposes can be found in annual volumes of the *Statistics of Tasmania* dating back to the nineteenth century. The administrative areas included: police districts; registration districts; electoral districts; and municipalities. The *Local Government Act* 1906 provided a basis for the whole State coming under uniformly constituted local government and gradually the divisional grouping of administrative areas was confined, in official statistics, to municipalities.

In 1919, groupings appeared very similar to those still used in 1971 and statistical divisions included the North Western, North Eastern, North Midland, Midland, South Eastern, Southern and Western. In some series Hobart, Launceston and Glenorchy were separately specified as components of an 'Urban Division' distinct from the region in which each was located.

The basis for these 1919 groupings can only be inferred since no specific criteria was specified in the records. The Western Division clearly combined the 'west coast' mining municipalities into one entity; the Southern seemed to be based on orcharding, small fruit and hop areas; while the South Eastern was allied more with pastoral and grazing areas. In short, the main determinant may well have been similarity of rural activity (with the Western Division a special case because of its mining activity).

After the 1966 population census, a new division was formed with the title Hobart Division, comparable with similar capital city divisions in other States; its boundaries were drawn wide enough to encompass the expected expansion of the inner urban area for the next 20 or 30 years. Apart from this, the broad divisional structure in 1971 was very much the same as it had been in 1919.

Criticism of 1971 Structure

There were three major criticisms of the 1971 structure:

The modern geographical concept of urban focus was given little weight and a number of divisions existed with no apparent urban focus, e.g. Midland, North Midland, North Eastern, South Eastern, Southern and Western (totals for these divisions contained no component contributed by a major town or city); nor did the provision of statistics according to these groupings fulfill any real functional need.

Launceston City appeared in isolation as a statistical division in its own right (i.e. North Central Division). Its suburbs, spread in five other municipalities, were included in the statistics for two other divisions.

The area with Launceston as centre has peculiar characteristics due to the relatively long navigable course of the Tamar River; for example, the main overseas port and aluminium refinery are 25 miles downstream from the city. The 1971 divisional structure classified downstream municipalities such as George Town and Lilydale as North Eastern, but upstream municipalities such as Westbury and St Leonards as North Midland. The group of municipalities broadly associated with the Tamar Valley was not treated as a unit but partitioned between three divisions.

Principles Underlying New Structure

Several years ago a decision was made to examine the existing statistical division structure with a view to making substantial revisions in light of current requirements. For a number of reasons, including delays associated with the implementation of the Municipal Commission recommendations, earlier decisions were not put into effect. Recently another investigation was undertaken and at the suggestion of Professor Peter Scott (Geography, University of Tasmania), the decision was made to use the concept of urban focus as the main determinant. Only three main urban foci were identified: Hobart; Launceston; Burnie-Devonport (these towns are nearly 30 miles apart but it is reasonable to combine them in defining the third urban focus). It followed that the new divisional structure had to be based on the concept of three major regions. These regions could loosely be described as follows:

With Hobart the focus—	south and south east;
With Launceston the focus—	north and north east;
With Burnie-Devonport the focus—	west and north west.

In carrying this concept further, there was an immediate difficulty in the south where the Hobart Division had already been defined in accordance with Australia-wide criteria and rules. Accordingly it was necessary to represent the area with Hobart as focus with two divisions: (i) the Hobart Division; and (ii) the balance of the South and South-East. The next problem was nomenclature and the following divisional titles were adopted:

With Hobart the focus—	Hobart Division <i>plus</i> Southern Division (new);
With Launceston the focus—	Northern Division (new);
With Burnie-Devonport the focus—	Mersey-Lyell Division (new).

Sub-divisions

The Mersey-Lyell Division appears to divide into two clear areas when type of economic activity is considered: (i) the west (mining almost exclusively); (ii) the north west (manufacturing and rural). Accordingly it was decided to create Western and North Western Sub-divisions of Mersey-Lyell, acknowledging, nevertheless, that the urban focus of both was Burnie-Devonport.

The Northern Division contains an inner group of nine municipalities which lie along the Tamar Valley where the bulk of the Division's population is concentrated (the main component being Launceston and its suburbs). It was decided to present the combination of these municipalities as the Tamar Sub-division and to give the title North Eastern Sub-division to the outer seven municipalities of the Division. Giving two separate totals for the Division does not conceal the fact that the urban focus for both inner and outer groups is Launceston.

State and Regional Planning

The intention to design a framework based on three main regions was in line with State Government policy, the decision having been taken to base future regional planning on a three-area basis. The relevant reports referred to three regions: the south and south east; the north and north east; and the north west and west.

At the time of designing the new structure, regional planning bodies were operating in each of the three regions: (i) Southern Metropolitan Planning Authority; (ii) Tamar Valley Regional Planning Authority; and (iii) North West Regional Planning Authority. None of

these authorities was concerned with planning for the whole of the region in which each operated if the State's regions are defined as those specified in the previous paragraph. Nevertheless, there was a statement of government intention to eventually extend regional planning to cover the whole State.

The Revised Structure

The new structure involved abolition of the following traditional Divisions: Southern (old); South Eastern; Midland; North Midland; and North Central. The Divisions in the new structure are as follows:

Hobart Division

No change, made up of Hobart and Glenorchy cities, the municipality of Clarence, and parts of four other municipalities: Brighton; Kingborough; New Norfolk; and Sorell. The Hobart Division has boundaries drawn wide enough to contain the expected outward growth of the inner urban area for the next 20 or 30 years.

One important component of the Hobart Division is Urban Hobart, defined as the densely settled contiguous parts of the cities of Hobart and Glenorchy, and of the municipalities of Clarence and Kingborough. The boundaries of Urban Hobart and of the Hobart Division do not conform with borders defining local government areas. (The details of these boundaries are given in Chapter 6 'Demography' under 'Population Centred on Hobart.')

A rough approximation of the area of the Hobart Division can be obtained by drawing the quadrilateral New Norfolk-Pontville-Carlton River Mouth-Snug.

Southern Division (New)

The new Southern Division is the combination of: (i) the old Southern Division; (ii) the old South Eastern Division; and (iii) the municipalities of Hamilton, Bothwell and Oatlands taken from the old Midland Division. It will be seen, therefore, that the Hobart Division is, in effect, an enclave within the general area covered by the Southern Division.

Northern Division

The Northern Division is the region with Launceston as its urban focus.

(i) *Tamar Sub-division*: This is the region dominated by the Tamar Valley. In the centre of this area is Launceston and its suburbs (known as Urban Launceston).

Urban Launceston is defined for statistical purposes as the City of Launceston plus the contiguous urban parts of the following municipalities: Lilydale, St Leonards, Evandale, Westbury and Beaconsfield.

(ii) *North Eastern Sub-division (New)*: The designation 'new' is added here since there was a North Eastern Division in the old structure; however, the two areas are substantially different.

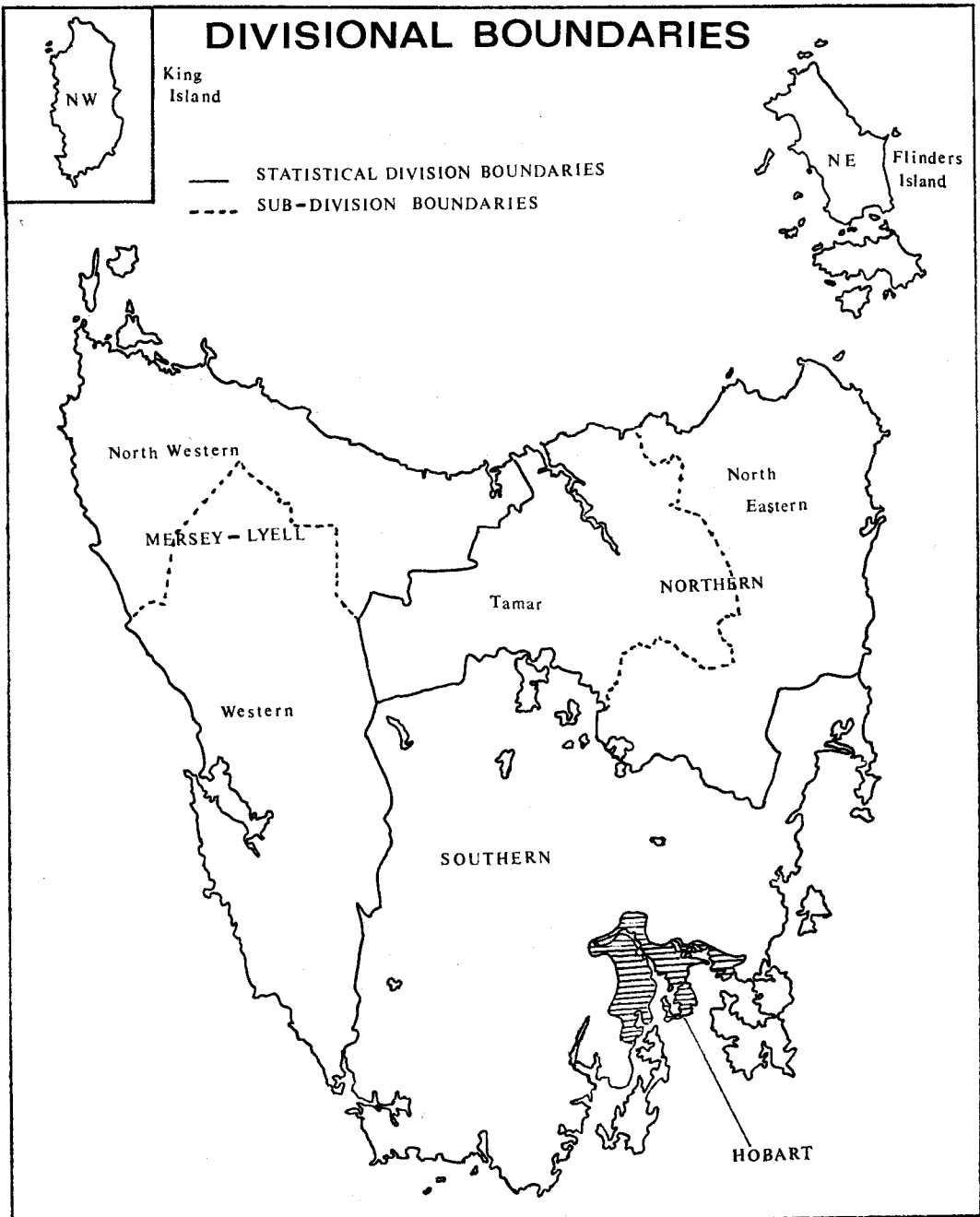
Mersey-Lyell Division

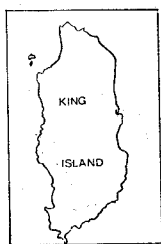
The title 'Mersey-Lyell' had to be invented since the two parts of the Division have names which are familiar to all Tasmanians: the West 'coast'; and the North-West 'coast'.

(i) *North Western Sub-division (New)*: The designation 'new' is added here since there was a North Western Division in the old structure; however, Deloraine Municipality has been transferred across to the Northern Division. The Sub-division consists of the municipalities stretching along Bass Strait from Latrobe to Circular Head, plus Kentish and King Island.

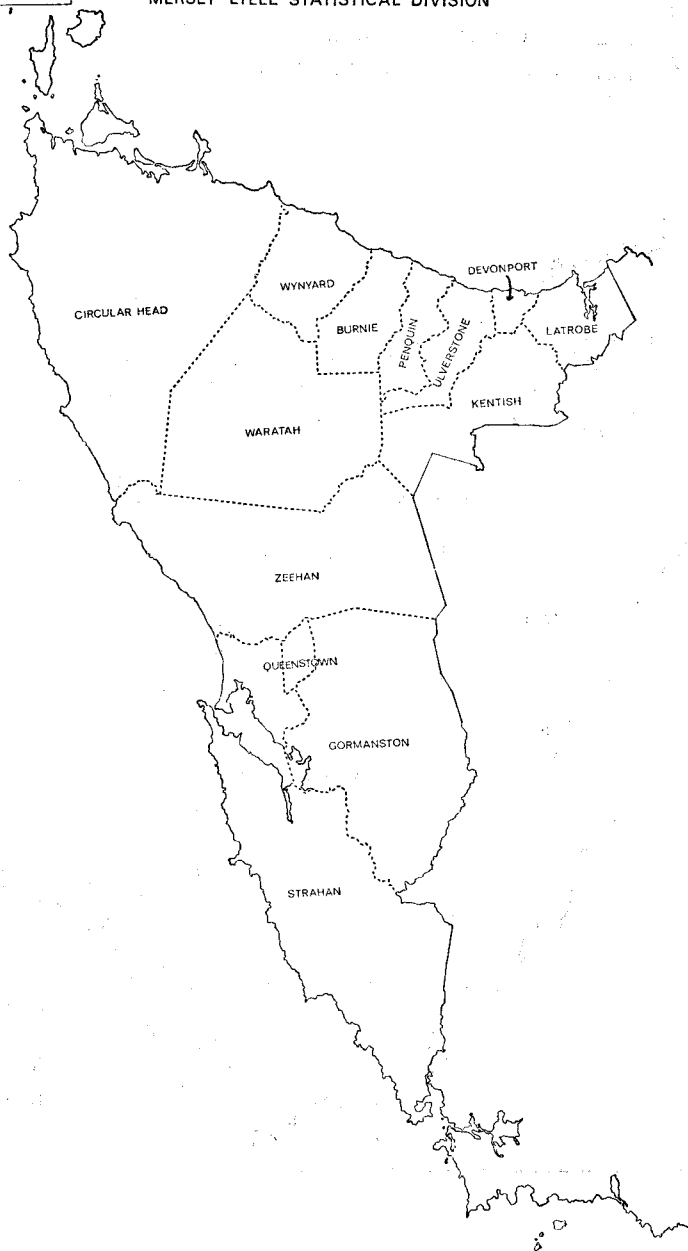
(ii) *Western Sub-division*: There was a Western Division in the old structure and the new Sub-division is identical.

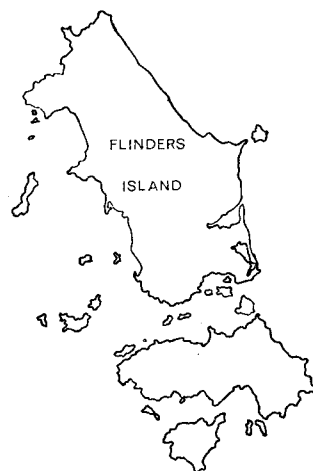
The following maps show: (i) statistical division and sub-division boundaries; (ii) local government authority components of statistical divisions.





MERSEY-LYELL STATISTICAL DIVISION

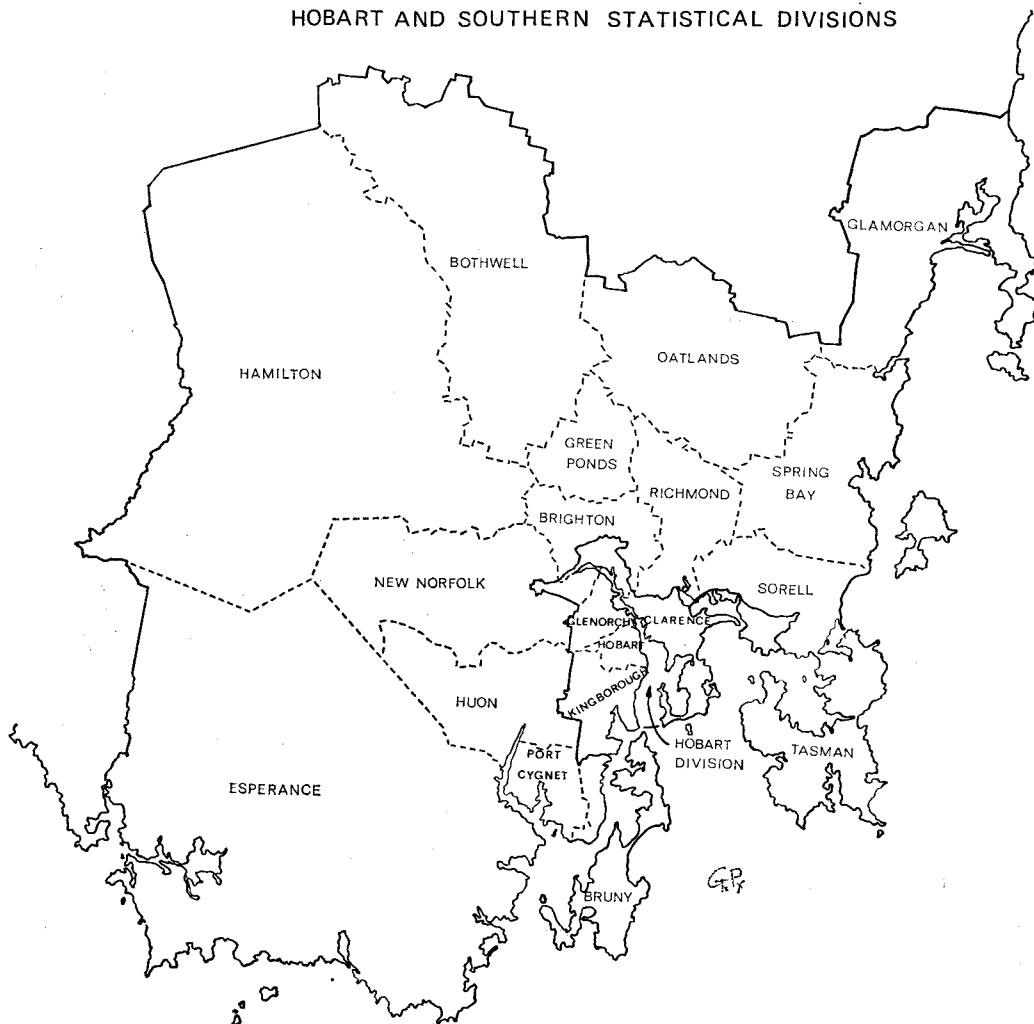




NORTHERN STATISTICAL DIVISION



HOBART AND SOUTHERN STATISTICAL DIVISIONS



The next table lists the local government authority components of each statistical division and sub-division:

Local Government Authority Areas by Statistical Division and Sub-division

Statistical Division Components	Statistical Division Components	Statistical Division Components
Hobart— Hobart Glenorchy Clarence Brighton (Part) Kingborough (Part) New Norfolk (Part) Sorell (Part) Southern— Brighton (Part) Kingborough (Part) New Norfolk (Part) Sorell (Part) Bothwell Bruny Esperance Glamorgan Green Ponds Hamilton Huon Oatlands Port Cygnet	Southern— <i>continued</i> Richmond Spring Bay Tasman Northern— Tamar— Launceston Beaconsfield Deloraine Evandale George Town Lilydale Longford St Leonards Westbury North Eastern— Campbell Town Fingal Flinders Portland Ringarooma	Northern— <i>continued</i> North Eastern— <i>continued</i> Ross Scottsdale Mersey-Lyell— North Western— Burnie Circular Head Devonport Kentish King Island Latrobe Penguin Ulverstone Wynyard Western— Gormanston Queenstown Strahan Waratah Zeehan

Comparison: Old and New Statistical Division Structures

To illustrate the difference between the two structures, two tables follow, the first in old format and the second in new format. Population figures have been inserted to show the two different pictures of the same data that emerge from these systems of analysis:

Population Analysed in Old Statistical Divisions

Local Government Area (Statistical Division in Bold Type)	Population at 30.6.1971	Local Government Area (Statistical Division in Bold Type)	Population at 30.6.1971
Hobart (H)	52,425	Beaconsfield	10,920
Glenorchy (H)	42,620	Fingal	3,438
Clarence (H)	37,013	Flinders	967
Brighton (SE) (H)	2,329	George Town	6,027
Glamorgan (SE)	1,118	Lilydale	8,301
Green Ponds (SE)	871	Portland	1,495
Richmond (SE)	1,568	Ringarooma	2,461
Sorell (SE) (H)	3,609	Scottsdale	3,598
Spring Bay (SE)	1,412		
Bruny (S)	311	North Eastern	37,207
Esperance (S)	3,526		
Huon (S)	4,752	Evandale	1,462
Kingborough (S) (H)	10,767	Longford	5,132
New Norfolk (S) (H)	10,602	St Leonards	16,196
Port Cygnet (S)	2,066	Westbury	4,860
Tasman (S)	1,044		
		North Midland	27,650
Hobart	153,024	Bothwell	815
South Eastern	7,024	Campbell Town	1,640
Southern	15,985	Hamilton	4,033
Launceston	35,001	Oatlands	2,131
		Ross	550
North Central	35,001	Midland	9,169

Population Analysed in Old Statistical Divisions—*continued*

Local Government Area (Statistical Division in Bold Type)	Population at 30.6.1971	Local Government Area (Statistical Division in Bold Type)	Population at 30.6.1971
Burnie	19,943	Gormanston	465
Circular Head	7,958	Queenstown	5,081
Deloraine	4,805	Strahan	442
Devonport	19,761	Waratah	1,935
Kentish	5,310	Zeehan	4,373
King Island	2,801		
Latrobe	5,096	Western	12,296
Penguin	4,777		
Ulverstone	11,047	Migratory	423
Wynyard	10,597		
North Western	92,095	Tasmania	389,874
Urban Hobart	129,808	Urban Launceston	62,181

NOTE: Symbols above mean: H—Hobart Division; SE—South Eastern Division; S—Southern Division: two groups (i.e. (SE) (H) or (S) (H)) part of municipality in one division and remainder in other division.

Population Analysed in New Statistical Divisions

Local Government Area (Statistical Division and Sub-division in Bold Type)	Population at 30.6.1971	Local Government Area (Statistical Division and Sub-division in Bold Type)	Population at 30.6.1971
Hobart (H)	52,425	Campbell Town	1,640
Glenorchy (H)	42,620	Fingal	3,438
Clarence (H)	37,013	Flinders	967
Brighton (H) (S)	2,329	Portland	1,495
Kingborough (H) (S)	10,767	Ringarooma	2,461
New Norfolk (H) (S)	10,602	Ross	550
Sorell (H) (S)	3,609	Scottsdale	3,598
Bothwell (S)	815	North Eastern	14,149
Bruny (S)	311		
Esperance (S)	3,526	NORTHERN	106,853
Glamorgan (S)	1,118		
Green Ponds (S)	871	Burnie	19,943
Hamilton (S)	4,033	Circular Head	7,958
Huon (S)	4,752	Devonport	19,761
Oatlands (S)	2,131	Kentish	5,310
Port Cygnet (S)	2,066	King Island	2,801
Richmond (S)	1,568	Latrobe	5,096
Spring Bay (S)	1,412	Penguin	4,777
Tasman (S)	1,044	Ulverstone	11,047
HOBART	153,024	Wynyard	10,597
SOUTHERN	29,988	North Western	87,290
Launceston	35,001		
Beaconsfield	10,920	Gormanston	465
Deloraine	4,805	Queenstown	5,081
Evandale	1,462	Strahan	442
George Town	6,027	Waratah	1,935
Lilydale	8,301	Zeehan	4,373
Longford	5,132	Western	12,296
St Leonards	16,196		
Westbury	4,860	MERSEY-LYELL	99,586
Tamar	92,704		
Urban Hobart	129,808	Migratory	423
		TASMANIA	389,874
		Urban Launceston	62,181

NOTE: Symbols above mean: H—Hobart Division; S—Southern Division; (H) (S)—part of municipality in Hobart Division and remainder in Southern Division.

ADMINISTRATION AND AREA OF STATE

Sovereignty

Tasmanian sovereignty covers an area bounded by the approximate rectangle $39^{\circ}12'$ to 45° South latitude and 143° to 150° East longitude.

Since the boundary line between Tasmanian and Victorian sovereignty is defined as $39^{\circ}12'$ South latitude, numerous Bass Strait islands, the chief being the Furneaux group, King Island and the Hogan, Curtis and Kent groups, are part of Tasmania. In effect some Tasmanian territory (Rodondo and West Moncoeur Islands) is located only eight to 10 miles from the Victorian coast.

The proclamation of $39^{\circ}12'$ South latitude as the northern boundary of Tasmanian sovereignty dates from 1825 when Van Diemen's Land became a colony distinct from New South Wales. Subsequent State mining legislation has followed the limits of the 1825 proclamation and Tasmania claims mining jurisdiction over Bass Strait as far north as $39^{\circ}12'$ South latitude.

Macquarie Island, site of an Antarctic Research Station and also part of the State of Tasmania, is situated in 54° South latitude and its area is included in Esperance, a State coastal municipality.

Area of Major and Minor Islands

The official area of the State of Tasmania (based on the 1963 survey) is 26,383 square miles (16,885,000 acres). Before this date an estimate made in 1907 indicating an area of 26,215 square miles (16,778,000 acres) was accepted.

The State consists of 49 local government areas (cities and municipalities) and of these islands or groups of islands form municipalities or parts of municipalities. The following table shows the area of these islands and the municipalities to which they belong:

Area of Islands

Islands	Area		Municipality
	Square Miles	Acres	
Bruny	139.81	89,476	Bruny (a)
King	424.40	271,615	King Island (a)
Flinders	530.62	339,599	Flinders Island (a)
Prime Seal	3.75	2,400	
Badger	3.91	2,500	
Vansittart	2.34	1,500	
Cape Barren	171.87	110,000	
Clarke	43.75	28,000	Circular Head
Three Hummock	26.87	17,200	
Hunter	28.44	18,200	
Robins	39.06	25,000	
Maria	38.91	24,900	
Schouten	13.28	8,500	Spring Bay
Macquarie	47.66	30,500	Glamorgan
			Esperance
Total Islands	1,514.66	969,390	
Mainland Tasmania	24,868.10	15,915,581	
Total Tasmania	26,382.76	16,884,971	

(a) Island municipality.

Area of Municipalities and Cities

In the table that follows, the measured area of the State (16,884,971 acres or 26,382.76 sq. miles) has been rounded, in total, to the nearest 1,000 acres and to the nearest sq. mile. The corrections necessary to reconcile to the rounded totals have been made by adjusting the area of Esperance, the largest municipality. Where municipal boundaries lie in the sea, these have been disregarded so that the stated area relates to a physical boundary (i.e. the coastline) and not to a legal boundary (which may lie in a seaway or estuary).

Area of Statistical Divisions, Sub-divisions and Local Government Areas

Local Government Area (Statistical Division and Sub-division in Bold Type)	Area		Local Government Area (Statistical Division and Sub-division in Bold Type)	Area	
	Acres	Sq. Miles		Acres	Sq. Miles
Hobart (H) (a)	19,728	30.82	Campbell Town	354,714	554.24
Glenorchy (H) (a) ..	29,593	46.24	Fingal	674,953	1,054.61
Clarence (H)	62,075	96.99	Flinders	492,115	768.93
Brighton (H) (S) ..	108,905	170.16	Portland	390,783	610.60
Kingborough (H) (S) ..	87,682	137.00	Ringarooma	403,238	630.06
New Norfolk (H) (S) ..	325,121	508.00	Ross	306,488	478.89
Sorell (H) (S)	193,199	301.87	Scottsdale	319,143	498.66
Bothwell (S)	644,463	1,006.97	North Eastern	2,941,434	4,595.99
Bruny (S)	89,476	139.80			
Esperance (S) (b) ..	1,528,586	2,388.61	NORTHERN	5,091,935	7,956.14
Glamorgan (S)	379,325	592.70			
Green Ponds	102,827	160.67	Burnie	152,647	238.51
Hamilton (S)	1,445,459	2,258.53	Circular Head	1,215,094	1,898.58
Huon (S)	191,306	298.92	Devonport	28,696	44.84
Oatlands (S)	380,520	594.56	Kentish	293,436	458.49
Port Cygnet (S)	59,385	92.79	King Island	271,615	424.40
Richmond (S)	140,391	219.36	Latrobe	135,608	211.89
Spring Bay (S)	277,195	433.12	Penguin	106,712	166.74
Tasman (S)	118,570	185.27	Ulverstone	126,342	197.41
			Wynyard	200,772	313.71
HOBART	238,067	371.98	North Western	2,530,922	3,954.57
SOUTHERN	5,945,739	9,290.40			
Launceston (a)	6,974	10.90	Gormanston	709,627	1,108.79
Beaconsfield	157,628	246.29	Queenstown	34,973	54.65
Deloraine	720,687	1,126.07	Strahan	922,355	1,441.18
Evandale	244,513	382.05	Waratah	669,373	1,045.90
George Town	161,614	252.52	Zeehan	742,009	1,159.39
Lilydale	168,987	264.04	Western	3,078,337	4,809.91
Longford	246,506	385.17			
St Leonards	220,202	344.06	MERSEY-LYELL	5,609,259	8,764.48
Westbury	223,390	349.05			
Tamar	2,150,501	3,360.15	TASMANIA (c)	16,885,000	26,383.00

(a) City.

(b) Measured area is 2,388.37 sq. miles (1,528,557 acres).

(c) Measured area is 26,382.76 sq. miles (16,884,971 acres).

At the 1966 Census, new definitions based on high population density were employed to fix the boundaries of urban areas. The two major centres in the State, with boundaries conforming to the definitions, were: (i) Urban Hobart (40.2 sq. miles); and (ii) Urban Launceston (26.6 sq. miles). (See Chapter 6 for definition of these areas.)

Area of Tasmania and Other Australian States

The following table compares the area and length of coastline of Tasmania with those of other Australian States and Territories:

Australia: Areas and Coastline of States and Territories

State or Territory	Area	Proportion of Total Area	Coastline	Area per Mile of Coastline
	sq. miles	per cent	miles	sq. miles
Tasmania	26,383	0.89	(a) 900	29
New South Wales	309,433	10.43	(b) 700	443
Victoria	87,884	2.96	680	129
Queensland	667,000	22.47	3,000	222
South Australia	380,070	12.81	1,540	247
Western Australia	975,920	32.88	4,350	224
Northern Territory	520,280	17.53	1,040	500
A.C.T... .. .	939	0.03	..	..
Mainland	2,941,526	99.11	11,310	260
Australia	2,967,909	100.00	12,210	243

(a) Excludes coastline of islands totalling at least a further 500 miles.

(b) Includes coastline of Jervis Bay which is part of Australian Capital Territory.

CLIMATE OF TASMANIA

Introduction

Since Tasmania lies between 40° and $43\frac{1}{2}^{\circ}$ south of the Equator and is an island with no point more than 70 miles from the sea, its climate is classified as temperate maritime. On the coast the daily temperature range averages about 5° Celsius (10° F), but inland the range is almost doubled, indicating a slight continental effect.

The combination of mountainous terrain in the western half of the State and prevailing westerly winds produces a marked west-east variation of climate, and especially of rainfall.

Summers are mild and characterised by greatly lengthened days. The sun reaches a maximum elevation of $70-73^{\circ}$ in mid-summer, giving 15 hours of daylight in the north and $15\frac{1}{2}$ hours in the south. In mid-winter, the sun's elevation does not exceed $20-23^{\circ}$, and the shortest day consists of $9\frac{1}{4}$ hours of daylight in the north, falling to slightly under nine hours in the south.

In winter, westerly winds reach their greatest strength and persistence, causing a distinct maximum in rainfall distribution in the west and north-west. In the east and south-east, rainfall is more evenly distributed over the year. Coastal areas of Tasmania enjoy relatively mild winters as compared with, say Boston (U.S.A.) which is about the same latitude north.

Winds

The prevailing winds over most of the island are north-west to south-west, with greatest strength and persistence during late winter. Speed and direction vary with the eastward passage of high and low pressure systems. In the summer months, when westerlies are weak, afternoon sea-breezes become the predominant wind in coastal areas. Occasional periods of north-east to south-east winds occur.

The highest average wind speeds are associated with extensive deep depressions over ocean areas south of Tasmania.

Temperature

Method of Recording: Late in 1972 the Commonwealth Bureau of Meteorology changed from the Imperial system (Fahrenheit) of temperature recording to the metric method (Celsius). Temperatures reported in this *Year Book* are in degrees Celsius (indicated by °C). The following table shows selected Celsius readings and their Fahrenheit equivalents:

Temperature Measures: Celsius Readings and Fahrenheit Equivalents

Celsius	Fahrenheit	Celsius	Fahrenheit
°C	°F	°C	°F
-5	23	35	95
0	32	40	104
5	41	50	122
10	50	60	140
15	59	70	158
20	68	80	176
25	77	90	194
30	86	100	212

The relevant formulae used to convert Celsius readings to Fahrenheit and Fahrenheit to Celsius are:

$$(i) \text{ } ^\circ\text{F} = \frac{^\circ\text{C} \times 9}{5} + 32; (ii) \text{ } ^\circ\text{C} = (\text{ } ^\circ\text{F} - 32) \times \frac{5}{9}$$

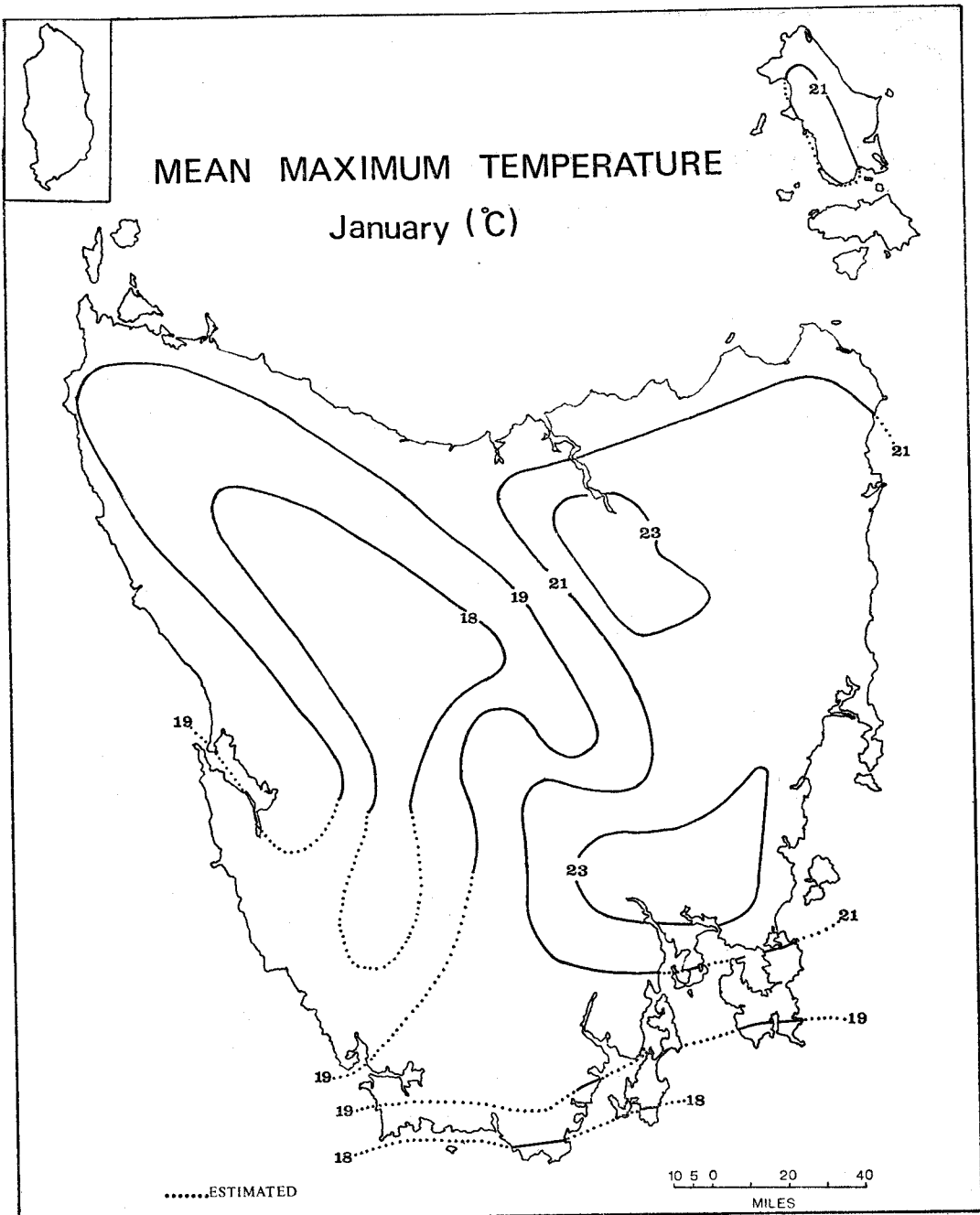
Sea level temperatures are reduced by approximately 3° Celsius for each 1,000 feet of altitude. Hence in a mountainous island like Tasmania the isotherms (lines of equal temperature drawn on a map) will be much influenced by topography. Greater cloud cover over the western half, a result of the persistent westerlies, further decreases day-time temperatures in the west, while the Föhn effect warms and dries the westerly airstreams as they descend to the Midlands, the East Coast and South-East districts.

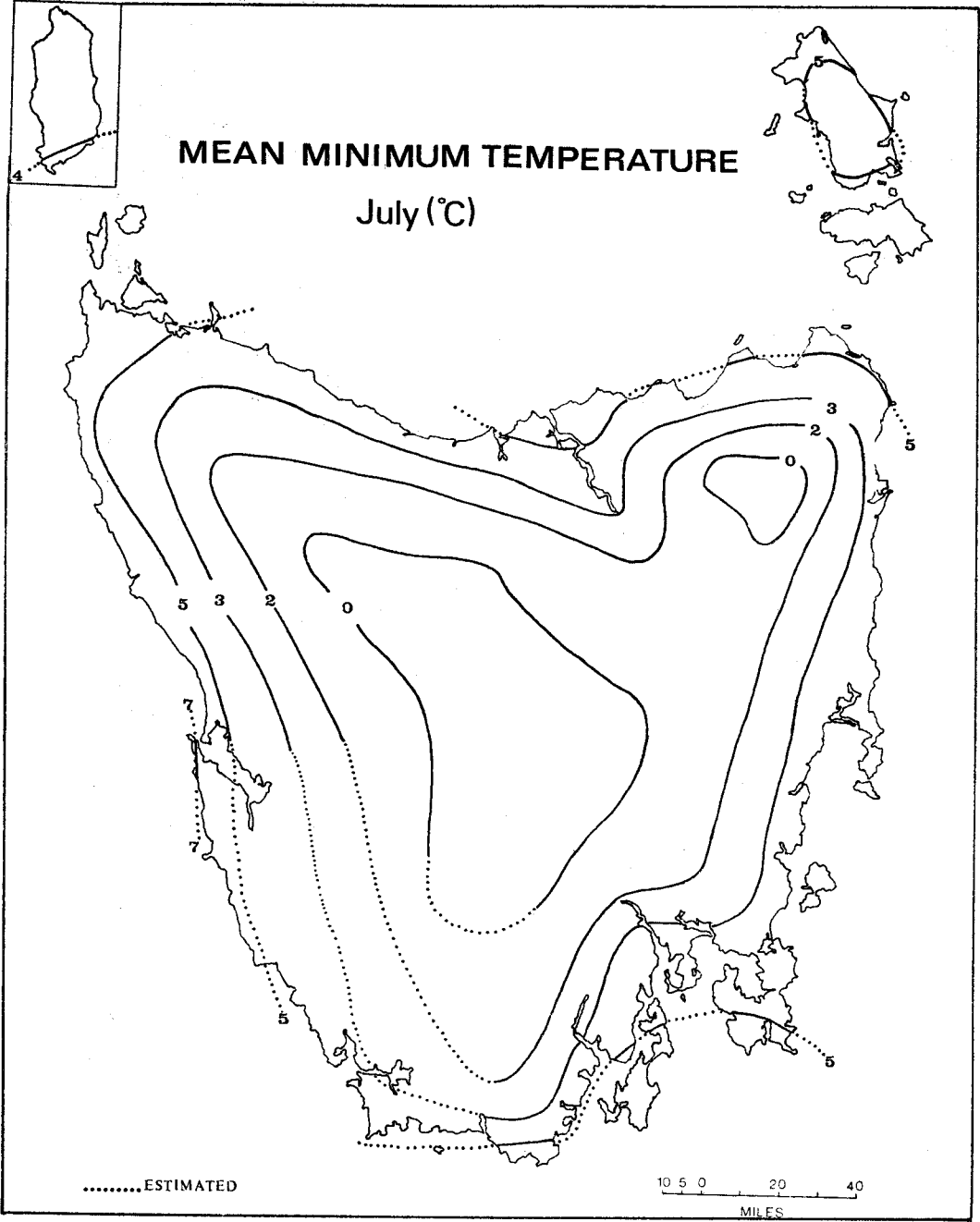
Frosts are affected markedly by topography, the valleys acting as natural channels for the drainage of cold air at night. Widespread severe frosts are experienced in winter on the Central Plateau and in upland valleys. Inland centres below 1,000 feet are virtually frost-free only in summer, while the north coast, the east and south-east have few frosts after early October. Above 1,000 feet there is no frost-free month.

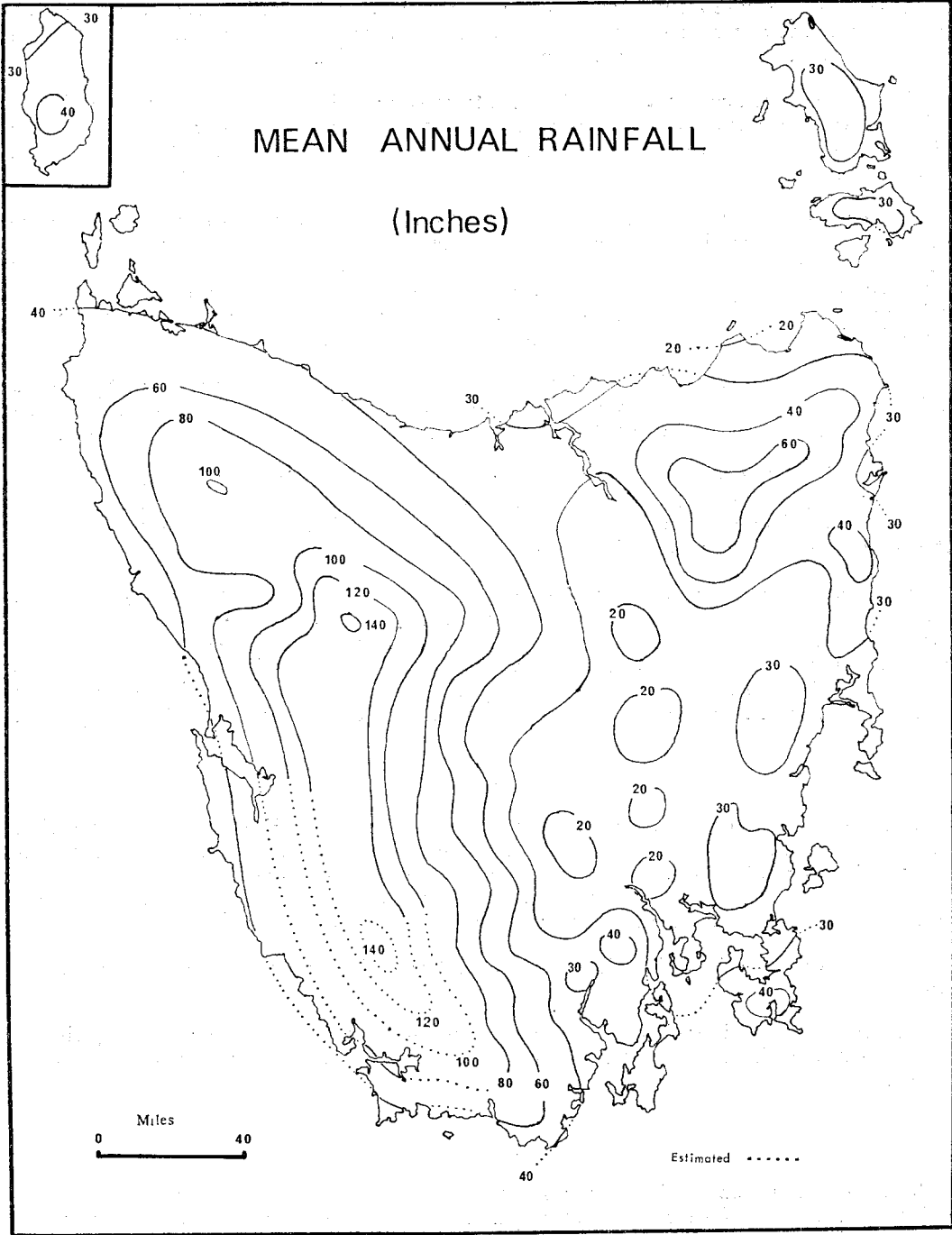
Tasmania only occasionally experiences the extremes of temperature common to the other States. High temperatures recorded in the east and south-east of Tasmania generally occur on the last day of a warm spell during which a dry air mass of mainland origin is advected over this State, from a direction between north and north-west. Some cooling in the lower air layers over the waters of Bass Strait prevents the northern coast from reaching the higher temperatures that are experienced in the south under these conditions. The highest temperature recorded in Tasmania was 40.8°C at Bushy Park in December 1945. The lowest temperature recorded was -12.8°C at Otlands in May 1902.

The recorded extremes of temperature for Hobart are 40.7°C in December 1897 and -2.4°C in July 1895. Readings above 37.8°C or below -1.1°C are rare, the mean maximum temperature in summer being 21.1°C and the mean minimum in winter, 5.0°C.

The mean maximum temperature for January and the mean minimum temperature for July over Tasmania are shown in the following maps. The mean maximum is the average of daily maxima for January; the mean minimum the average of daily minima for July.







Rainfall

Tasmania's position on the northern edge of the 'Roaring Forties' (a westerly air-stream), its exposure to this stream and the mountainous nature of the terrain are the controlling influences on the amount, distribution and reliability of the State's rainfall.

In the west, average annual rainfall ranges from 50 to 60 inches on the coast to 142 inches at Lake Margaret; in the north-east, from 22 inches on the coast to 50 inches on the highlands while rainfall in the north-west ranges from 35 inches near the coast to 70 inches in the higher inland areas.

Extreme three to five-day rainfalls occur most often on the west coast in late June, when the westerlies are increasing in strength and persistence and the sea temperature is well above the land temperature. In the north, short periods of extreme precipitation occur when wind flow is sustained for up to two days from the north-east, usually mid to late autumn. The high moisture content of such streams from over the relatively warm waters of the Tasman Sea results in heavier, if less prolonged, rainfall than is produced in the westerly streams.

There is a strong gradation in rainfall from west to east, because of topography, with a distinct rain shadow east of the Central Plateau. Parts of the Midlands average less than 20 inches per year. Totals in the east and south-east are higher (up to 40 inches on exposed slopes).

Rainfall is least reliable in the east, south-east, Midlands and Derwent Valley. These areas are driest when, respectively, westerlies are relatively absent or at their strongest i.e. late summer and late winter. Highest rainfall in these areas tends to occur in autumn and spring, under the influence of small cyclonic depressions off the East Coast.

Effective rainfall is the amount necessary to compensate for evaporation, begin germination and maintain plant growth above wilting point. Average rainfall is sufficient for this purpose from May to September. From October to January the chance of receiving effective rainfall decreases, except in the west and north-west, where the probability is usually better than 50 per cent. In the Midlands, the Derwent Valley, the south-east and east, and in the northern inland, the chance of receiving at least effective rainfall during the summer months is very small.

Snow and Hail

Snow and hail can be experienced over the highlands at any time of the year. Heaviest snowfalls occur, as a rule, in late winter and spring, and less frequently in June and July. Extensive snow below 500 feet occurs, on the average, less than once every two years, associated with an unusually vigorous outbreak of cold air from Antarctic regions. There is no permanent snowline, but patches of snow often remain on the highest peaks till December.

The average annual rainfall distribution over Tasmania is shown on the accompanying map.

Hail is most likely in spring, though possible in any month. Hail storms are a big risk to fruit crops in the Huon Valley and on the Tasman Peninsula and sometimes cause extensive damage.

Thunderstorms

These are most common in the north and north-west of the State and are associated with the lifting of warm moist air by a cold front. Thunderstorms occur mainly in the summer months. Hobart and Launceston average five to seven storms per year, and the north and north-west 10 to 15. The Central Plateau and north-eastern highlands report, on average, about five storms per year, while the Midlands, as gauged by Oatlands, has less than three.

Floods

In Tasmania the river system most affected by flooding is the South Esk. The Esk catchment includes most of the north-eastern highlands, where annual rainfall averages over 50 inches, and much of the Western Tiers where run-off can be rapid. As much of the South Esk and its tributaries flow through flat country, flooding can be widespread and disruptive.

Flooding of the Derwent River system can be extensive but is less frequent than in the case of the South Esk. The most severe flood on record in the Derwent occurred in April 1960 with the peak discharge flow recorded as 120,000 cusecs at Macquarie Plains.

Flooding of rivers in the west and south of the State can be of greater frequency than in the Derwent and Esk systems but because of mountainous terrain and lack of population these pass mostly unnoticed. Similarly the short-fast-flowing rivers of the east coast flood and fall rapidly, but can cause damage and disruption of road systems.

In the north and north-west of Tasmania many rivers have their catchments along the northern edge of the Central Plateau and can flood quickly. In August 1970 severe flooding occurred along the Mersey and Forth River systems causing loss of life, widespread property damage and stock losses, and severe damage to road and railway systems.

Humidity

The mean relative humidity at both 9.00 a.m. and 3.00 p.m. exceeds 50 per cent at all stations in all months of the year. Relative humidity is generally higher in the morning than in the afternoon, and higher in coastal regions than inland. Days of high temperature combined with uncomfortably high humidity are rare. In the east and south-east, warm dry winds from a west or north-west direction may occasionally have a relative humidity as low as 10 per cent.

Droughts and Bushfires

Although Tasmania has the highest average rainfall of any State in the Commonwealth, drought conditions are not unknown. Unlike the remainder of Australia droughts in this State tend to be highly localised and of reasonably short duration (due to the fact that Tasmania is an island), usually spanning only two to three years and, therefore, are less severe than in other States.

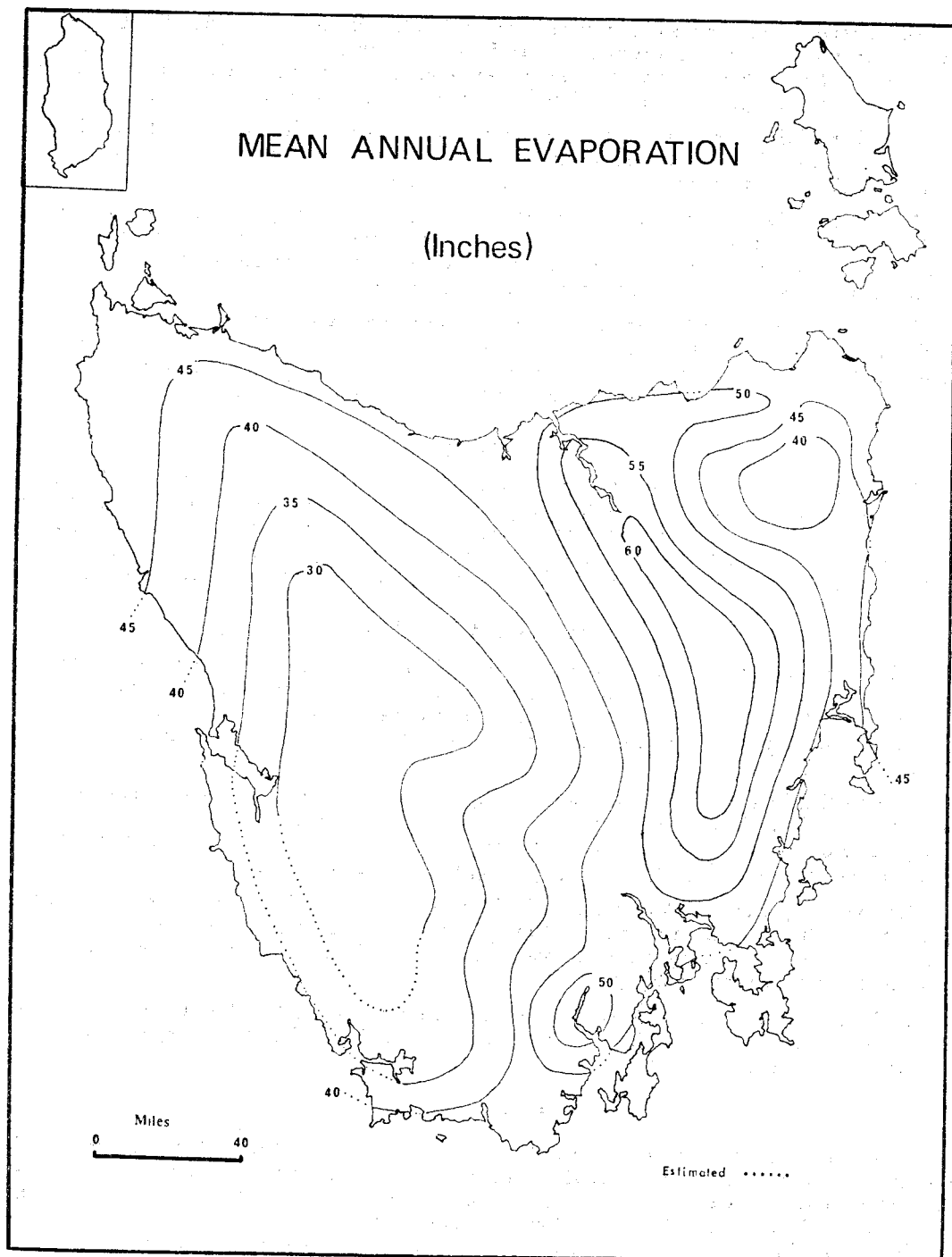
The localised nature of the Tasmanian drought greatly reduces its severity when compared with droughts in mainland States, where they tend to influence vast areas. The most severe droughts recorded in this State prior to the 1967-69 East Coast drought were those occurring in the periods 1888-89, 1897-98, 1918-20, 1933-34, 1945-46 and 1949-52.

The years 1967 and 1968 saw a period of severe drought in the eastern half of the State. The rainfall which had been near normal in 1966, failed during the first half of 1967 and the drought did not break in central Tasmania until the second half of 1968, and on the extreme East Coast until the summer of 1969.

Serious bushfires occurred in 1898, 1915, 1946, 1951 and 1967. The bushfire of 7 February 1967 was the most severe in the State's history causing 62 deaths and damage to property estimated to be in excess of \$25m.

Evaporation

Evaporation depends mainly on wind strength, the moisture deficit of the airstream and on sunshine. The World Meteorological Organisation has asked for standardisation of measurement of evaporation by use of the Class 'A' pan (a galvanised pan, four feet in diameter and ten inches deep) which gives higher figures for evaporation than those obtained from the containers previously used in Australia. There is now an increased network of the new type pans and therefore the accompanying map showing mean annual evaporation has been redrawn using the new standards.



At Launceston Airport the annual evaporation is just over 60 inches due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier in their descent to the lower Midlands and Tamar areas, thus increasing evaporation. Monthly evaporation at Launceston Airport has ranged as high as 11 inches in summer but drops to between one and one and a half inches in winter. This area of high evaporation extends southward to the lower Derwent and Huon areas.

The lowest evaporation rate occurs in the Central Plateau, West Coast Ranges and south-west areas where evaporation may fall to less than 30 inches. This is due to the high moisture content of the prevailing westerlies and the high average cloud cover. In these areas the monthly evaporation rate may range from about five inches in January to only half an inch in June and July.

Another area of low evaporation (below 40 inches a year) is located in the North-East Highlands.

Sunshine

The average number of hours of sunshine a year ranges from about 2,500 hours in the northern Midlands to less than 1,750 hours on the west coast and western highlands, this area having the least sunshine in Australia. Hobart averages 2,100 hours per year and Launceston around 2,400.

In January daily averages of sunshine range from nine hours per day between the Midlands and Launceston to six hours per day on the west and south coasts. In mid-winter, average daily sunshine is down to a maximum of three hours on the east coast and to considerably less on the west coast and highlands.

The Climate of Hobart

Temperature: Mean maximum temperature exceeds 21°C in January and February. On average there are two or three days per year with maximum temperatures greater than 32°C . Only once, in February 1968, have three successive days over 32°C been recorded in Hobart. Minimum temperatures below -1.1°C are rare.

The average annual frequency of days of frost is 31, mostly between June and August. Frosts have not been recorded during the month of January.

Rainfall: There is a strong gradient of rainfall, immediately west of Hobart suburbs, caused by the bulk of Mt Wellington. At the Pinnacle (4,166 feet) annual rainfall averages 65 inches. Ferntree (1,500 feet) has 55 inches. At the Regional Office of the Bureau, the average is nearly 25 inches but some suburbs on the Eastern Shore receive only 23 inches.

Monthly totals are fairly uniform. The wettest twelve months on record yielded 43.4 inches (to December 1916) and the driest, 13 inches (to November 1943).

Relative Humidity: Highest humidity is at the time of lowest temperature, in the early mornings during winter. As temperatures rise to 3 p.m., humidity decreases by 15-20 per cent. The seasonal variation is not great, although the average humidity during the winter months is 70 to 75 per cent and during the summer months 58 per cent. Periods of high humidity combined with high temperatures are rare.

Fog: Fogs occur in the city about four times per year, in the cooler months, but are more frequent over and near the Derwent River, down which they are often carried on a light north-west wind. Fog frequency is far less than either that of Launceston or Melbourne.

Wind: The main wind direction is north-west, induced by the orientation of the Derwent Valley. Next in importance is the sea-breeze (from south or south-east) during summer months.

The strongest wind gust experienced in Hobart was 93 mph recorded during a storm in September 1965.

Snow and Hail: Snow below 1,000 feet occurs, on the average, less than once per year. Falls lying in the centre of the city, almost at sea level, have occasionally been recorded, the last being in September 1970. Snow generally lies on Mt Wellington during winter and early spring months, but it is rare between November and March. Hail occurs, on the average, four times per year, mainly between September and November.

Frost: The average annual frequency of days of frost is 31, mostly between June and August. None has been recorded in January. Cold air drainage is found in the hilly suburbs and frosts are common on the valley floors.

Sunshine and Cloud: No marked seasonal variation of cloud amount occurs but a strong dependence on time of day is evident. During April to September cloud cover is greater in the afternoon and from October to March greater in the morning.

A clear-cut seasonal variation in monthly average hours of sunshine also occurs with amounts varying from 231 hours in January to 111 hours in June.

Temperature and Rainfall: Hobart

The next table gives the main climatic data for Hobart during the year 1971 on a monthly basis:

Hobart Weather in 1971

Month				Shade Temperature				Mean Daily Hours of Sunshine	Rainfall	
				Mean Maxima	Mean Minima	Extremes			Total in 1971	Long-term Average
						Maximum	Minimum			
				°C	°C	°C	°C	hours	inches	inches
January	..	..	..	21.1	13.5	35.8	9.8	5.7	4.07	1.93
February	..	..	..	23.2	14.6	32.2	11.3	7.2	4.05	1.65
March	..	..	..	21.9	12.5	31.3	6.9	7.6	1.96	1.85
April	..	..	..	19.1	10.2	28.2	5.6	5.8	1.41	2.15
May	..	..	..	14.1	6.4	17.2	3.5	4.2	3.14	1.93
June	..	..	..	12.6	5.3	16.9	2.4	4.5	1.36	2.33
July	..	..	..	11.9	3.4	15.6	0.6	4.4	0.61	2.07
August	..	..	..	12.4	4.3	15.8	1.3	5.0	2.27	1.93
September	..	..	..	14.4	6.3	19.4	3.2	5.8	2.91	2.06
October	..	..	..	16.1	7.7	24.2	3.2	5.6	2.73	2.51
November	..	..	..	16.6	9.1	24.7	5.0	5.7	3.06	2.20
December	..	..	..	20.3	11.8	26.1	6.4	6.6	2.05	2.26
Total for Year .. ..				..	..	..	..	..	29.62	24.87

The Climate of Launceston

Being over 30 miles from the coast, Launceston exhibits a slight continental effect—greater seasonal and daily variations of temperature and lower rainfall as compared with stations on the coast.

Temperature: Average maximum temperature exceeds 24°C in January and February, 21°C in December and March, and 13°C in June and July. Average minimum is about 11°C in summer, falling below 4°C in winter. Freezing temperatures are common during winter mornings, the lowest recorded being -6°C. Up to 50 frost days are to be expected in a year, mostly from May to August. Light frosts may occur in summer.

Rainfall: The annual average is 29 inches. The wettest month is July (3.4 inches) while January and February, the driest months, each receive less than half this amount. The wettest month on record is August 1936 (10.01 inches). Annual totals range from 18.40 inches (1908) to 41.63 inches (1946). Some severe thunderstorms are experienced. Snow does not settle in Launceston, but falls occur on surrounding hills.

Relative Humidity: Seasonal and daily variations are similar to those for Hobart, but the daily readings are five to 10 per cent higher.

Fog: Occasions of high humidity, associated with moist north-east airstreams, are relatively frequent. Fog occurrence averages more than 30 days a year, mostly between May and August.

Wind: The NW-SE orientation of the Tamar Valley has a marked effect on surface winds, which conform mainly to these directions. The north-west wind is often reinforced in the afternoon by a sea-breeze from much the same direction. Strong winds are most common during the colder half of the year and severe squalls can occur in association with thunderstorms.

RAINFALL AT SELECTED STATIONS

Annual Rainfall at Representative Stations
(Inches)

Station	1967	1968	1969	1970	1971	Long-term Average (a)
Avoca	14.56	20.57	25.37	33.15	33.80	21.73
Beaconsfield	25.29	48.34	39.42	42.81	51.11	37.25
Burnie (Holymans)	28.46	46.56	37.85	39.03	46.79	38.86
Campbell Town	12.96	19.78	22.64	27.32	23.95	21.88
Cygnnet	28.17	29.79	40.70	44.01	42.56	34.29
Cradle Valley	88.42	160.87	106.81	129.62	121.91	110.25
Deloraine (Ashley)	26.88	45.77	36.90	n.r.	48.24	37.77
Franklin	27.72	42.74	39.50	43.81	40.66	35.52
Hobart (Weather Bureau)	19.23	18.64	28.35	30.77	29.62	24.87
Hobart (Airport)	18.31	15.98	26.09	27.56	26.05	22.65
Kettering	25.15	29.17	38.29	41.61	41.64	34.42
Launceston (Airport)	19.40	35.98	31.62	32.74	36.92	28.47
Lilydale	27.13	45.79	38.46	46.48	53.42	38.30
Longford	18.58	32.39	28.91	31.06	36.62	25.03
Maydena	42.29	68.36	51.72	55.88	47.45	48.15
New Norfolk	15.17	20.82	23.27	23.51	26.99	21.87
Oatlands	14.80	16.83	24.87	29.52	26.59	22.32
Queenstown	75.20	128.31	99.59	107.59	105.43	99.49
Ringarooma	29.53	60.48	46.97	57.49	61.51	48.70
Smithton	32.40	52.28	45.89	51.89	57.15	43.49
Springfield South	39.81	65.62	52.85	61.25	69.54	51.31
St Helens	18.65	18.03	36.65	43.25	38.76	30.85
St Marys	31.28	20.03	49.50	61.82	54.55	40.44
Swansea	17.84	14.40	37.49	37.55	31.84	24.31
Triabunna	22.02	14.72	38.26	41.28	39.45	26.27
Ulverstone	28.09	45.47	40.80	43.02	48.35	38.33
Waratah	63.96	117.22	84.81	91.12	85.32	86.87

(a) Number of years of record used to calculate the long-term average varies from station to station.

Seasonal Temperatures

The mean temperature for any locality can give a false impression, e.g. a mean temperature of 25°C based on a maximum of 50°C and a minimum of 0°C, all in the one day. A better way of examining a locality's climate is to take the maximum temperature each day and average these readings for each season; similarly to take the minimum temperature each day and average these readings for each season. These mean maxima and minima then give an indication of the daily variation that may be expected. The following table shows the mean maximum and mean minimum temperatures for nine selected stations in summer, autumn, winter and spring.

*Physical Environment***Temperatures at Selected Stations, 1971
(°C)**

Station	Maximum Temperatures		Minimum Temperatures		Mean Temperatures	
	Mean for Season (a)	Departure from Normal	Mean for Season (b)	Departure from Normal	Mean for Season	Departure from Normal

SUMMER (December to February)

Hobart	21.3	+0.3	13.1	+1.8	17.2	+1.1
Launceston	22.7	-1.2	11.0	+0.1	16.8	-0.6
Cape Bruny	19.2	+1.7	12.1	+1.4	15.7	+1.6
Devonport	21.7	+1.1	13.3	+2.1	17.5	+1.6
Maydena	21.2	+0.5	9.9	+3.1	15.5	+1.8
Oatlands	20.7	-0.3	9.8	+2.0	15.3	+0.8
St Helens	23.2	+1.2	13.6	+2.6	18.4	+1.9
Waratah	18.4	+1.3	8.3	+2.3	13.4	+1.8
Zeehan	21.6	+2.2	10.3	+1.5	15.9	+1.8

AUTUMN (March to May)

Hobart	18.4	+1.3	9.7	+1.1	14.1	+1.2
Launceston	18.5	-0.2	7.8	-1.4	13.2	-0.8
Cape Bruny	17.2	+2.1	10.7	+1.4	13.9	+1.7
Devonport	19.1	+1.7	9.8	+3.1	14.4	+2.4
Maydena	17.2	+1.7	6.1	+0.7	11.6	+1.2
Oatlands	16.9	+1.2	5.7	+0.7	11.3	+0.9
St Helens	20.4	+2.1	8.9	+1.4	14.6	+1.7
Waratah	14.9	+2.3	6.4	+2.1	10.6	+2.2
Zeehan	17.7	+1.9	7.3	+0.3	12.5	+1.1

WINTER (June to August)

Hobart	12.3	+0.3	4.3	-0.6	8.3	-0.2
Launceston	11.3	-1.4	2.7	-0.6	6.9	-0.9
Cape Bruny	11.6	+0.3	6.3	+0.2	8.9	+0.3
Devonport	12.6	-0.2	3.5	-1.1	8.1	-0.6
Maydena	10.0	-0.1	1.4	-0.1	5.7	-0.1
Oatlands	10.0	-0.1	0.5	-1.1	5.3	-0.6
St Helens	13.9	+0.3	2.1	-1.1	8.1	-0.4
Waratah	7.7	+0.1	1.6	+0.6	4.7	+0.3
Zeehan	11.3	+0.1	3.2	-0.6	7.3	-0.2

SPRING (September to November)

Hobart	15.7	-1.0	7.7	+0.2	11.7	-0.4
Launceston	16.2	-1.9	6.5	-0.3	11.4	-1.1
Cape Bruny	13.9	-0.2	7.7	+0.1	10.8	-0.1
Devonport	15.6	-0.2	6.7	-0.3	11.1	-0.3
Maydena	14.0	-0.9	4.4	+0.5	9.2	-0.2
Oatlands	13.9	-1.6	4.2	-0.1	9.1	-0.8
St Helens	17.0	-0.5	7.0	+0.4	12.0	-0.1
Waratah	11.7	-0.2	3.1	+0.3	7.4	+0.1
Zeehan	13.9	-0.9	5.4	-0.5	9.6	-0.7

- (a) Average of maximum daily temperatures for season.
 (b) Average of minimum daily temperatures for season.

Rainfall in Districts

Tasmania is divided into nine meteorological districts (not to be confused with statistical divisions) with fairly well-defined land use patterns appropriate to each. The following table shows rainfall totals for the past 10 years:

**Rainfall of Tasmania in Districts
(Inches)**

Period	Northern		King Island	Central Plateau	Midlands
	Agriculture, Dairying and Mixed Farming			Grazing (Mainly Sheep)	
1962	37.60		35.48	47.17	20.07
1963	33.65		30.79	30.74	14.94
1964	50.44		45.49	57.47	26.56
1965	31.06		35.89	35.86	18.25
1966	31.63		38.41	34.47	21.40
1967	25.85		29.67	30.19	13.89
1968	43.32		42.05	49.39	18.34
1969	38.28		36.36	43.62	23.62
1970	42.30		37.63	54.01	28.36
1971	47.94		46.56	45.67	24.91
District Average (a)	39.60		37.13	38.53	21.90

**Rainfall of Tasmania in Districts—continued
(Inches)**

Period	Derwent Valley	South East	East Coast	West Coast	Flinders Island
	Fruit Growing, Grazing, Forestry		Dairy Farming	Mining	Grazing
1962	29.93	30.12	29.96	105.99	37.07
1963	17.94	19.69	24.40	73.26	26.99
1964	30.98	32.05	36.65	115.97	37.45
1965	21.92	27.66	25.89	93.60	25.45
1966	25.15	31.03	28.72	78.02	26.04
1967	20.10	25.24	22.58	72.39	24.83
1968	29.09	28.53	22.02	124.70	26.41
1969	28.91	34.62	40.24	95.37	32.04
1970	32.43	38.97	48.25	98.71	40.19
1971	33.27	37.16	41.09	96.79	37.75
District Average (a)	26.77	29.57	32.63	91.65	29.24

(a) Long-term annual average based on 59 years of record.

(The section on Climate was prepared by the Bureau of Meteorology)

MARINE MOLLUSCS OF TASMANIA

The following article was contributed by Mr A. J. Dartnall, Curator of Invertebrate Zoology, Tasmanian Museum.

Introduction

Members of the animal phylum Mollusca include such familiar forms as oysters, abalone, squids and snails. This is one of the few groups of invertebrate animals that have attained popularity with laymen and amateur collectors. During the late eighteenth and nineteenth centuries, when natural history was a pastime of the leisured well-to-do, shell collecting became a popular hobby. Such collections, often containing specimens from throughout the world, contributed greatly to knowledge of the group. As a result, molluscs now rank next to birds and mammals as one of the best known of the larger groups of animals.

Molluscs comprise the largest invertebrate phylum, apart from the arthropods, as over 80,000 living species have been described. In addition the phylum has a long geological record stretching back to the Cambrian period, with some 35,000 fossil species known.

The history of the study of Tasmanian molluscs goes back to the days of the early expeditions from Europe when rare, curious and new shells were taken back to enhance the cabinets of collectors. The study of Tasmanian molluscs owes much to W. L. May of Sandford, whose book *An Illustrated Index of Tasmanian Shells*, updated and revised, remains a basic reference. May referred to 1,052 species of shells in this work (which included the land and freshwater species). The known species of marine Mollusca from Tasmania number about 1,100 but there are many more to be added as investigations and research proceed. Many of the new species will undoubtedly be the minute molluscs, known as micro-molluscs, which may occur in thousands in some localities and are a major constituent of shell sands.

Most molluscs have a soft mucus-coated body protected by a hard, calcareous shell but there is no standard molluscan shape or form and in some cases the hard shell is completely missing. When the shell is present, it consists of one of three crystalline forms of calcium carbonate—calcite, aragonite or vaterite. The shell conforms to the shape of the mantle, which covers the inner growing surface of the shell and, in some species, the outer surface as well. Crystals of calcium carbonate are grown on the mantle, the actual structure varying from mollusc to mollusc. For bivalves there are three layers of shell, deposited by specialised portions of the mantle: (i) outer organic layer (periostratum); (ii) crystalline (prismatic) layer, next to the periostratum; and (iii) inner crystalline layer. This is nacreous (mother-of-pearl) if the crystal form is aragonite.

In general, calcium carbonate is formed in the mollusc by metabolic reactions. The components of the shell are secreted by the mantle and the crystals grow on it. This process is continuous, so that as the flesh of the mollusc grows so does the mantle at the edge of the shell, which is added to in turn. If the shell is damaged at the edge where growth is occurring it is usually regenerated. A hole in the middle of the shell is not so readily repaired by most molluscs; some can repair the hole only if it is covered up.

The foot is a basic element of molluscan design, but its structure differs greatly among the various molluscs. It may be an attachment disc (e.g. limpet), or a form of entrenching tool for thrusting into the substratum. The type of foot influences the method of locomotion. Molluscs may move by means of a continuous locomotor wave, by swimming (adopting practically every device for water-borne movement, including the screw, the scull, rowing by oars, jet propulsion and passive sailing), by burrowing and even by 'flying' in the case of certain squids.

Classes of Molluscs

The molluscs are grouped into five classes, each living in varied habitats and different parts of the biosphere. The Amphineura, Scaphopoda and Cephalopoda are exclusively marine while the Bivalvia are characteristic of a range of marine and freshwater habitats. The Gastropoda, probably the most successful molluscan group, have radiated into almost every kind of habitat. In this article we are concerned with the molluscs that inhabit the shore and seas around Tasmania.

(i) *Amphineura*

The Amphineura, or chitons, are flattened molluscs with eight shell plates and a large, muscular, creeping foot and are common members of the shore and shallow water fauna of Tasmania where about 50 species are known. They range from the little, dark *Ischnochiton (ovatoplax) mayi*, which has recently been shown to carry its eggs and young on the gills bordering the foot, to *Poneroplax costata* which attains 3½ inches in length and is one of our largest chitons. *P. costata* is found on exposed rocky shores. Also conspicuous members of the shore fauna are two species of *Cryptoplax* in which the shell plates are reduced to a keel along the back of the animal.

(ii) *Gastropoda*

Molluscs of this class also possess a muscular foot and usually have a spirally coiled one-piece shell. Some forms, such as the limpets, possess a simple cone shaped shell when adult. Others, such as abalone, do have a spiral shell but the functional shell is the greatly expanded last whorl, the remainder of the spiral being confined to the apex of the shell. The shell may be lost entirely as in the sea slugs of the order Nudibranchiata.

Gastropods include the familiar garden snails and slugs; the whelks, helmet shells and warreners so often found washed up on beaches; and the pelagic snail *Ianthina violacea* which, supported by a float or mucous bubbles, drifts in the surface waters of the sea feeding on jelly-fish and small crustaceans. Also included in the group is the largest mollusc found in Tasmania, *Mamillana mamilla*, the False Bailer Shell. This large volute often attains a length of twelve inches and is characterised by a knob at the apex of the shell—a condition described as mamillate and hence the scientific name. The False Bailer Shell is found in moderately deep water all around Tasmania and also off eastern Victoria and southern New South Wales.

(iii) *Scaphopoda*

The Scaphopoda is one of two classes of molluscs in which the foot is reduced and specialised for burrowing into soft substrata.

Shaped like miniature elephant's tusks the Scaphopoda, or tusk shells, are known from five species in Tasmanian waters. Two species of *Cadulus*, *C. vincentianus* and *C. spretus* are common and three species of *Dentalium* are known, though two of these are from unique specimens only.

(iv) *Bivalvia*

The Bivalvia, the other class in which the foot is reduced for burrowing, include scallops, oysters, mussels and their allies. As the name implies they have a hinged, two-part shell which encloses the body. Probably the most interesting Tasmanian species is the brooch shell, *Neotrigonia margaritacea*, which belongs to a family of great geological age with representatives known from rock strata dating from the Ordovician period (about 440 million years ago). Except in Australia they have entirely disappeared as living shells. *N. margaritacea* is very common in Tasmania and is also found in Victoria and New South Wales.

(v) *Cephalopoda*

The Cephalopoda have generally lost the shell altogether or it is reduced to an internal shield or pen. This class includes squids, cuttlefish and octopuses.

The Blue-Ringed Octopus, *Hapalochlaena maculosa*, which is quite common in Tasmania, has attained a certain notoriety because the species possesses a venom of very high toxicity which acts almost instantaneously. Produced by the salivary glands of the octopus, the venom affects both nerve conductivity and neuromuscular junctions causing complete and rapid cessation of all voluntary muscle activity. Death is due to respiratory failure in mammals, and in man the most effective treatment is probably prompt artificial respiration which may need to be maintained for several hours.

Another cephalopod of interest found at times in Tasmania is the Paper Nautilus, *Argonauta nodosa*, which inhabits the open ocean and is recorded from the whole of the Indo-Pacific area. On occasion these elegant shells (which are really cases to contain the eggs and not true shells) are found washed up along the eastern seaboard of Tasmania.

Associations of Molluscs

Marine Molluscs of Rocky Shores

Many intertidal animals and plants are found at definite levels on the shore and this phenomenon is especially marked on sloping rocky shores. This zonation has recently been described in detail for a range of Tasmanian shores subjected to, among other factors, different degrees of wave action, exposure to air and desiccation. The Tasmanian patterns of zonation are similar to the zonation patterns shown on shores in the cool temperate parts of New Zealand, South

America and South Africa. Bands of zonation observed on Tasmanian rocky shores are reflected and characterised by the molluscs found there. It must be noted, however, that the molluscs mentioned here do not occur in isolation; they are found in association with other animals and marine algae.

The shore may be divided into three levels:

(i) The upper littoral level at the top of the shore may only be covered by the sea on a few occasions each year and is only dampened by spray at other times. This is called the periwinkle zone and in Tasmania is inhabited by two species, *Melarapha unifasciata* and *M. praetermisssa*. These periwinkles are often present in huge numbers and are often the only animal inhabitants at this level of the shore.

(ii) The middle levels of the shore (the mid-littoral) which are covered by the sea for about half the time, are characterised by limpets and air-breathing, limpet-shaped molluscs of the genus *Siphonaria*. The large limpet *Cellana solida* occurs all around the Tasmanian coast and *Patelloida latistrigata latistrigata* has been recorded as the dominant limpet in this zone on rocky shores. Three species of *Siphonaria* are also found in this zone. *S. diemenensis* is found all round the Tasmanian coastline. *S. tasmanica* is present in exposed areas, especially on the west coast, but it is not recorded from the north, and *S. funiculata*, which has extended its range to south-eastern Australia is found on the east coast of Tasmania.

In the lower part of the mid-littoral, two other molluscs become dominant organisms; the chiton, *Poneroplax costata* and another limpet, *Patellanax peroni*. On flat or gently sloping rock surfaces in this zone, where exposure to surf is moderate, carpets of mussels, *Brachiodontes rostratus*, may be found.

(iii) At low littoral levels of rocky shores, which are only uncovered by the sea for a few hours each year giant seaweeds are the dominant organisms. Constant wave movement at this level appears to inhibit the settlement of most animal life. The limpet, *Patelloida victoriana*, is found on rocks among the kelp holdfasts but is difficult to detect because the shell is often covered with the same encrusting growths as the surrounding rock. The abalone, *Notobaliothis ruber*, may also be found at this level of the shore.

Marine Molluscs of Sandy Shores

The molluscs of sandy shores are mostly burrowing forms which feed on organic matter in the sand, food carried in by the sea or preying upon other sand living species. Characteristic bivalves of sandy shores are *Gari livida*, *Placamen placida*, *Tawera gallinula*, *Phacosoma coerulea*, *Fulvia tenuicostata* and the razor shell *Solen vaginoides*. A gastropod common on sandy shores is the carnivorous sand snail, *Polinices conicus*. This gastropod preys on other molluscs by boring a hole in the shell of the victim and sucking the contents out. Bivalve shells with a small hole near the hinge, and which are commonly found at high water mark on sandy beaches, are the result of the activity of this species.

Marine Molluscs of Mud Flats

Estuarine mud flats as found at Barilla Bay, Pittwater and North West Bay also have a characteristic molluscan fauna. Two small gastropods, *Assiminea brazieri* and *A. tasmanica* may occur in huge numbers, over 2,000 individuals having been recorded in one square metre of mud. Recent work has shown that these molluscs are important as food items of some wading birds (the Curlew Sandpiper and the Red-necked Stint). A larger gastropod, *Eubittium lawleyanum*, is also common on mud flats and densities of approximately 1,600 per square metre have been recorded from Barilla Bay.

The characteristic bivalve of mud flats is *Anapella cycladea* which forms an important part of the diet of larger wading birds such as oystercatchers. The common carnivore of muddy shores is *Parcanassa panperata*, a mud whelk, which also scavenges on decaying organic matter.

Distribution

The distribution of all Tasmanian mollusc species is not known but analysis has shown that the marine fauna may be separated from that of continental Australia and this zoogeographical entity has been named the Maugean region. The region is not separated from the marine faunal areas of western Victoria and southern New South Wales by distinct boundaries but by regions where the distributions and associations of species overlap. Among the animals that have been shown to characterise the Maugean region are the following molluscs: *Melarapha praetermissa*; *Cellana solida*; *Lepsiella vinosa*; *Cominella lineolata*; *Notoacmea mayi*; *N. alta*; *Patelloida latistrigata latistrigata*; *P. victoriana*; *Siphonaria diemenensis*; *S. funiculata*; *S. tasmanica*; *Xenostrobus pulex*; *Brachiodontes rostratus*.

Because of the areas of overlap, parts of Tasmania show faunal affinities with Victoria and South Australia (the Flindersian region) and with southern New South Wales (Peronian region). In some cases, groups of molluscs are known with distributions radiating from the overlap area which, roughly, encompasses Bass Strait. Examples are demonstrated by the species of wedge shell belonging to the genus *Donacilla*. *D. cuneata* has a Flindersian distribution, *D. nitida* a Peronian distribution. *D. erycinaea* is present all around the Tasmanian coast and ranges to Victoria, demonstrating a Maugean distribution. Similar distribution patterns have been recorded for other groups of molluscs and one explanation for this distributional phenomenon concerns the effect of the opening and closing of Bass Strait in previous geological eras. The theory depends on an ancestral group of molluscs spread throughout the waters of south-eastern Australia evolving into separate species when each region was separated by the Bass Strait land bridge early in the Pleistocene period. Subsequent flooding of Bass Strait then provided pathways for the species to disperse and their present distributions now coincide and overlap in that area.

Some species appear to be endemic to south-eastern Tasmania. This is probably the case with the chitons, *Ischnichiton mayi* and *Anisoradsia mawlei*, and parallels a situation among the sea urchins and sea stars of the area. Other molluscs restricted to south-eastern Tasmania are probably introductions from New Zealand. These include *Amaurochiton glaucus* among the chitons; the mussel, *Mytilus canaliculus*; a Venus shell, *Paphirus largillierti* and the nutshell, *Neilo australis*. The tower shell, *Maoricolpus roseus* is also introduced and has become a successful member of the shallow water fauna of the Derwent Estuary and the D'Entrecasteaux channel.

Molluscs and the Tasmanian Aboriginal

Investigation of any Aboriginal midden near the sea provides striking proof that marine molluscs were an important part of the food of the Tasmanian Aboriginals. H. Ling Roth in *The Aborigines of Tasmania* (1890) quoted Marion du Fresne to this effect—'... by the considerable heaps of shells that we met with from time to time, we judged that the ordinary food of the savages consisted of mussels, wing-shells, scallops, chama and other similar shell fish'. In 1846, R. C. Gunn had reported in some detail on the contents of shell middens in an article to the *Tasmanian Journal*. He listed *Haliotis*, mussels, *Turbo*, limpets, whelks and cockles.

Recent research has expanded knowledge of the shell content of middens. Among the species most commonly found are oysters, *Ostrea angasi*; limpets, *Cellana solida* the turban shell or warrener, *Subnivalia undulata*; the abalone species *Notohalotis ruber* and *Schismotis laevigata* and the dog winkle, *Dicathais textilosa*.

Commercial Molluscs

Molluscs of commercial importance in Tasmania are scallops, oysters, abalone and, potentially, squid. The importance of this portion of primary industry to Tasmania can be deduced from the fact that the total value of mollusc exports from the State in 1970-71 was about \$1,300,000. Small hand craft industries use shells for ornaments and souvenirs but this activity rarely depends on collecting the live animal, more often using beach washed shells.

Abalone

Three species of abalone from Tasmania are known but only two of these are fished commercially; *Notohaliotis ruber*, the Black Lip Abalone, makes up most of the catch. *Schismotis laevigata*, the Green Lip Abalone, is taken mainly in the north of the State.

Abalone are fished by skin divers either working from boats, usually with hookah gear, or from light runabouts using scuba equipment. The industry commenced in 1964 and by 1969-70 almost 42 per cent of Australian abalone production came from Tasmanian waters (5,749,120 lb of abalone in shell being gathered in Tasmania during that year). The number of divers working decreased from mid-1967 but efficiency increased.

Research conducted by the Sea Fisheries Division has shown that it takes between five and seven years for *N. ruber* to reach the five-inch shell length which is the minimum legal size, and that sexual maturity is probably attained during the third year of life. Spawning occurs between June and October and there is some evidence of a secondary spawning period about February. Current research entails tagging abalone to record mortality and growth and to find out the effects of fishing on the stocks. Stock assessment to 1971 suggests that fishing operations are not dangerously affecting abalone populations. Experiments to investigate the feasibility of culturing and, eventually, farming abalone have also been carried out.

Oysters

Two species of oyster are present in Tasmania, the mud oyster, *Ostrea angasi*, and the introduced Pacific Oyster, *Crassostrea gigas*. There is some evidence that the Sydney Rock Oyster, *Crassostrea commercialis*, may be present in the State, but this has not been confirmed.

Ostrea angasi has been exploited in Tasmania since early settlement days and there is a long history of farming and even importation of new stock. By the 1930s import of this species (from New Zealand) appears to have ceased and *O. angasi* is now unimportant commercially.

The Pacific oyster was first introduced to south-eastern Tasmania in 1950 but the experimental stock proved unsatisfactory and was moved to Port Sorell on the north coast. Attempts to farm these stocks were not successful. However, by 1955, *C. gigas* was observed in the Tamar River, colonised by spat carried eastwards in the currents from Port Sorell. By 1965 the oysters could be seen on rocks and wharf piles for 30 miles upriver. In 1967 the first licences were issued to establish commercial oyster farms on the Tamar. The first cultivated Pacific Oysters were marketed in April 1970. Leases now extend from Duck Bay in the north-west to the Cygnet area in the south-east of the State. All the leases that have been exploited are stocked with spat from the Tamar River but, so far, none of these stocks has spawned successfully. Research is being undertaken to investigate this problem.

Most of the oysters produced are consumed within the State though some are exported to Victoria. Spat has also been exported to South Australia in an attempt to establish beds there.

Scallops

Six species of scallop are known from Tasmania. The Commercial Scallop, *Pecten meridionalis*; the Queen Scallop, *Equichlamys bifrons* and the Doughboy Scallop, *Mimachlamys asperimus* are fished commercially, *P. meridionalis* making up the bulk of the catch.

The Commercial Scallop is a filter feeder, straining diatoms and some debris from the water. It is rarely found in open ocean waters shallower than ten fathoms but occurs in shallow water in sheltered areas and is sexually mature at the end of the second year of life. Apparently spawning then occurs each year during its lifetime which is generally ten to twelve years. Spawning occurs in spring and the larvae are free living for between four and six weeks before they metamorphose to the adult form.

In the years before 1960 the scallop industry developed into an important primary industry for Tasmania and was based on exploitation of beds in the D'Entrecasteaux Channel. Since 1960 the Channel beds have declined and, although beds in deeper water off the east and north-east coasts were developed, by 1969 the catch had dropped to about six per cent of 1961 levels. Tasmanian production in 1969 was only about two per cent of the Australian total and recently scallops have been imported from beds off the Victorian coast.

The dynamics of scallop populations are not yet fully understood. The situation is complicated in the D'Entrecasteaux Channel where it appears that there may be an alternation of species with Commercial Scallops giving way to Doughboy, etc. Scallops are bottom living and mainly sedentary but can move and beds have been known to change their location. There is no assurance that the larvae from one stock will settle in the same area or, even, that any larval stock will settle successfully. Indications are that scallop populations fluctuate and therefore the industry will continue to fluctuate unless present Australian interest in the methods of scallop culture employed in Japan are successfully applied. Grants have recently been made for exploration for new scallop beds in the north of the State.

Squid

The viability of a squid fishing industry using unbaited jigs and a lamp to attract the animals is currently being investigated. The species under investigation is *Notodarus gouldi* which reaches about two feet in length, but the extent of fishable stocks and the rate at which they can be exploited is not yet known.

Further Reading:

- An Illustrated Index of Tasmanian Shells*, May, W. L., Hobart, revised 1958;
- Australian Fisheries*, Department of Primary Industry, monthly;
- Australian Shells*, Allan, J., (Melbourne 1959).

Glossary of Terms

Adductor muscles: Applied to bivalve shells; the anterior and posterior muscles draw the valves of the shell together leaving marks on the inner surface of each, called the muscular impressions, muscle scars or adductor scars.

Alimentary canal: Channel in animal's body through which food passes.

Anatomy: Bodily structure.

Anatomical: Details of bodily structure.

Apex: The tip, or small end of a shell.

Appendages: Something hung on (limbs, etc.).

Axis: In a univalve shell the centre or pillar upon which the spire turns.

Biosphere: Part of earth's crust capable of supporting life.

Calcareous: Limy or shelly matter.

Cambrian: A geological period 500-600 million years ago, the earliest of the Palaeozoic.

Carnivorous: Flesh eating.

Chitin: Hard substance which forms the rigid structures in the body of many invertebrates.

Class: A major division of a phylum.

Crustacean: Hard-shelled animal, e.g. crab, lobster, shrimp.

Desiccation: Extraction of water.

Detritus: Fragments of matter which include particles of food.

Digestive tract: Channel in animal's body through which food passes.

Epidermis: External coating of shells. Also known as periostracum.

- Family*: The division of classification into which genera are grouped.
- Foot*: Portion of the animal's body used for locomotion. In most bivalves a hatchet-shaped muscular organ capable of protruding beyond valve margins.
- Fossil*: Remains of plant or animal imbedded in stratified rocks.
- Genus*: An assemblage of species, possessing certain characteristics in common.
- Genera*: Plural of genus.
- Gills*: The breathing organs of most aquatic animals.
- Herbivorous*: Feeding on vegetable matter.
- Hermaphrodite*: Bisexual, containing both the male and female organs in the body.
- Larva*: Juvenile stage, different from the adult.
- Locomotion*: Movement from one place to another.
- Lung*: A special cavity in the body through which air is breathed.
- Mantle*: External tissue which secretes the shell.
- Mantle cavity*: The cavity which is formed by the mantle.
- Metabolic*: Converting nutritive material into living matter, or vice versa.
- Mollusc*: A member of the phylum Mollusca.
- Mouth*: Aperture or opening of a shell.
- Mucous*: Mucus coated.
- Mucus*: Slimy secretion.
- Muscle*: The fleshy, contractile organ by which the animal is attached to the shell.
- Nacreous*: Pearly; like mother-of-pearl.
- Neuromuscular*: Of nerves and muscles.
- Pelagic*: Pertaining to, or inhabiting the open sea; free swimming.
- Periostratum*: External coating of shells.
- Phyla*: Plural of Phylum.
- Phylum*: One of the main divisions of the animal kingdom.
- Plankton*: Small plants and animals living at various levels in the water.
- Pleistocene*: Two or three million to 10,000 years B.C.
- Predators*: Feeding on other animals.
- Sedentary*: To lead a life of bodily inactivity, remaining in one spot.
- Shell*: A calcareous or horny covering secreted by the mantle of a mollusc.
- Spat*: Spawn of shellfish, especially oyster.
- Species*: A subdivision of a genus, a group into which is placed all individuals of the same kind.
- Substrate, Substratum*: The sea floor.
- Univalve*: A shell consisting of a single piece, as distinguished from bivalves and multivalves.
- Valve*: One of the individual units of a molluscan shell which may be composed of one, two, or eight valves.
- Whorls*: A complete turn or revolution round the imaginary axis of a spiral shell.
- Zoology*: The study of animal life and structure.

Chapter 3

GOVERNMENT AND ADMINISTRATION

GOVERNMENT IN TASMANIA

Historical Summary

In its short history, Tasmania has experienced diverse modes of government; beginning with autocratic rule, it graduated to responsible self-government as a British colony and finally surrendered some sovereign powers to take its place as an original State of the Australian Commonwealth.

The evolution of the system of bi-cameral responsible government within a Federal system falls into five distinct phases:

1803-1825: The island was part of the colony of New South Wales and its lieutenant-governors and commandants were subordinate to the Governor in Sydney.

1825-1851: On 14 July 1825, Van Diemen's Land was created a separate colony with a Lieutenant-Governor directly responsible to the Secretary of State in London. A nominated Legislative Council was established.

1851-1856: The passage of the *Australian Constitution Act* 1850 by the Parliament in London was followed by the establishment of a new Legislative Council in which 16 members were elected and eight were nominees of the Lieutenant-Governor. The newly constituted Council first sat on 1 January 1852.

1856-1901: By the *Constitution Act* 1854, two houses of parliament, the House of Assembly and the Legislative Council were established, both houses being elected. The first Parliament sat on 2 December 1856 (the first year in which the island was officially called Tasmania); representatives of the Crown carried the title of Governor.

1901: The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. (The *Commonwealth of Australia Constitution Act* 1900 granted legislative and executive powers upon certain specified matters to the Commonwealth Parliament and Government, some of them exclusively, and provision was made that, in the case of inconsistency of valid laws, the Commonwealth law should prevail.) In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Commonwealth Parliament but, on those matters for which the Commonwealth may also legislate, the Tasmanian law may be superseded by the passing of a Commonwealth Act.

Introduction

Government in Tasmania is exercised at three levels:

- (i) The Commonwealth, with authority based on a written constitution, and centred in Canberra.
- (ii) The State, with residual powers, and centred in Hobart.
- (iii) The Cities and Municipalities, with authority derived from State Acts, and operating in 49 sub-divisions of the State.

This chapter deals primarily with the State Government and with Tasmanian representation in the Commonwealth Parliament. The administration of the cities and municipalities is described in Chapter 4, 'Local Government'.

Tasmanian Representation in Commonwealth Parliament

The Parliament of the Commonwealth of Australia consists of the Queen, a Senate and a House of Representatives. The Queen is represented in Australia by the Governor-General.

The Senate

The founders of the Australian Constitution had in mind that the Senate should give expression to the interests of the States as partners in the federation; in other words, the Senate should be a States' house. Accordingly the proportional representation suggested by the varying populations of the States was disregarded, and it was provided that each State should be represented by six senators; the first Senate in the first Parliament comprised 36 members of whom six represented Tasmania. The numbers remained unchanged until the *Commonwealth Representation Act 1948* when each State became eligible to elect 10 senators.

The Senate was also envisaged as a house of review and accordingly continuity of membership was provided by requiring only one-half of the Senate to retire every three years, and for each Senator's term to be six years. If the normal pattern of three-yearly rotational retirement is broken by a double dissolution of both Houses, provision exists to elect a complete Senate with members divided into two numerically equal classes: the first five senators declared elected in each State serve a six-year term; the other five elected serve a three-year term. After a normal rotational election, senators' terms commence from the following first day of July; in the case of an election for the whole Senate, terms commence from the first day of July preceding the election.

The House of Representatives

In designing the House of Representatives, the founders envisaged a legislative body representing the national interest and provided that the number of members chosen in the several States must be in proportion to population, but that no original State should have less than five members. The first House of Representatives in 1901 had 75 members of whom five were elected in Tasmania. The term of office was set as three years.

The *Representation Act 1948* increased the House of Representatives to 123, although only 121 were elected from the States; the Northern Territory and the Australian Capital Territory each had one member with restricted voting powers. At 1 January 1972, the House of Representatives stood at 125 members, 123 from the States and two representing the Northern Territory and the Australian Capital Territory respectively. Throughout the whole period since Federation, Tasmanian representation has remained constant at five members.

Electoral redistributions were undertaken soon after the 1947, 1954 and 1966 population censuses, the most recent being carried out by the Electoral Commissioners in 1968. The 1968 recommendations were accepted by the Federal Parliament and their net effect was to increase membership of the Federal House of Representatives by one to 125 members. The 1969 Federal House of Representatives election was the first Commonwealth election to be conducted in accordance with the new boundaries and subsequent to the election State representation in the House of Representatives became: N.S.W., 45; Victoria, 34; Queensland, 18; South Australia, 12; W.A., nine; Tasmania, five. The A.C.T. and Northern Territory each returned one member with full voting rights.

The following table indicates the state of the House of Representatives at the election immediately following an electoral redistribution.

Membership: House of Representatives

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T. (a)	A.C.T. (b)	Total
1948	28	20	10	6	5	5	1	..	75
1949 (c)	47	33	18	10	8	5	1	1	123
1955 (c)	46	33	18	11	9	5	1	1	124
1969 (c)	45	34	18	12	9	5	1	1	125

(a) Representative in House since 1922; full voting rights granted 1969.

(b) Representative in House since 1949; full voting rights granted 1966.

(c) Election following an electoral redistribution.

Qualifications of Voters for Commonwealth Elections

An elector on a Federal roll is required by law to vote both in elections for the House of Representatives and for the Senate. An elector is any person, male or female, aged at least 21 years who is a British subject, who has lived in Australia for six months continuously and whose name appears on the roll. Residence in an electoral sub-division for at least one month is necessary to enable a qualified person to enrol. Enrolment is compulsory. All servicemen on active service overseas, irrespective of age, can vote.

Qualifications of Candidates—Either Federal House

Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, 21 years of age or over, who has resided in the Commonwealth for at least three years and who is, or who is qualified to become, an elector of the Commonwealth.

The term of office for a member of the House of Representatives is three years unless the House is dissolved earlier by the Governor-General.

Disqualification as Elector or Member

Grounds for disqualification as an elector include being of unsound mind, or being convicted and under sentence for offences punishable by imprisonment for a year or longer. Grounds for disqualification as a member of either House include these prohibitions and also the following: membership of the other House, being an undischarged bankrupt or insolvent, holding office for profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons.

Elections for the Senate

In Senate elections each State is an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference, and election of members is carried out in accordance with the principles of proportional representation by the single transferable vote (see 'Elections for House of Assembly' in the 1971 *Year Book* for a description of similar electoral principles). If a vacancy occurs in the Senate, the appropriate State Government nominates a replacement who sits until the next Commonwealth general election (either for the House of Representatives or for the Senate), when an election is held to fill the vacancy. It is usual for appointed replacements to be of the same party as those they replace, although no law exists to require it.

If a senator fills a vacancy through an election held at the same time as an election for the House of Representatives, his term will be the same as if the vacating member's term were to run its full course. If the vacant seat is contested at an ordinary Senate election, then six, instead of five candidates, will be elected in the State affected and the senator last elected will fill the vacancy for a term shorter than the full six years.

The following table lists the senators for Tasmania together with party affiliation and year of retirement:

Senate: Tasmanian Members

Senator	Party Affiliation	Retires in Year
Devitt, Donald Michael	A.L.P.	1977
Lillico, Alexander Elliot Davidson	Liberal	1977
Marriott, John Edward	Liberal	1977
O'Byrne, Justin Hilary	A.L.P.	1977
Poke, Albert George	A.L.P.	1974
Rae, Peter Elliot	Liberal	1974
Townley, Michael	Independent	1977
Turnbull, Reginald John David	Independent	1974
Wriedt, Kenneth Shaw	A.L.P.	1974
Wright, the Hon. Reginald Charles (a)	Liberal	1974

(a) Commonwealth Minister for Works.

Elections for the House of Representatives

The Commonwealth is divided into 125 single-member electorates and electors are required to cast a vote for every candidate standing within the electorate in order of their preference. Election of members is carried out in accordance with the principles of the absolute majority through use of the alternative vote (see 'Elections for Legislative Council' for a description of similar electoral principles). If a vacancy occurs in the House of Representatives, it is filled by holding a by-election in the electorate concerned. The last general election was held on 25 October 1969.

The following table lists the Tasmanian members of the House of Representatives together with the party affiliation and electorate of each member:

House of Representatives: Tasmanian Members

Member	Party Affiliation	Electoral Division
Barnard, Lance Herbert (a)	A.L.P.	Bass
Davies, Ronald	A.L.P.	Braddon
Duthie, Gilbert William Arthur	A.L.P.	Wilmot
Sherry, Raymond Henry	A.L.P.	Franklin
Solomon, Robert John	Liberal	Denison

(a) Deputy Leader of Federal Opposition.

Division of Power

Under the *Commonwealth of Australia Act* 1900, the State of Tasmania surrendered part of its sovereignty and it was possible, at that point in time, to classify the totality of powers to be vested in the Commonwealth and the State as follows:

- (i) Exclusive powers to be exercised by the Commonwealth alone.
- (ii) Concurrent powers to be exercised both by the Commonwealth and the State (subject to the supremacy of Commonwealth law in cases of inconsistency).
- (iii) Residual powers to be exercised by the State.

Since the establishment of the Commonwealth of Australia, there have been considerable changes in functions actually performed by the two Governments due to constitutional amendments and to inter-governmental agreements affecting function. It will suffice, therefore, to list the main fields of activity of the Commonwealth Government today:

Foreign affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotion; employment service; age, invalid and widows' pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; Commonwealth courts and police; control of banking; collection of sales and income taxes; housing assistance and war service homes; scientific and industrial research; management of State and National debt; lighthouses and navigation. (For a fuller treatment of this subject, the *Constitution* in Chapter 1 of the *Commonwealth Year Book* is recommended.)

The departments, authorities, etc. of the Tasmanian Government are listed in a later section of this Chapter headed 'The Present System of Government'.

The State Governor

Introduction

Democratic forms of government exhibit great variety but, with regard to the selection and role of the head of State, two clearly conflicting concepts can be discerned. In the American tradition, the head of State is elected and must necessarily play an active role in party politics. In the British tradition, the head of State is the holder of hereditary office and is expected to be above and beyond party politics. Tasmania follows the British tradition and accepts as its Queen, Elizabeth the Second. Her Majesty appoints the Governor who acts as head of State, generally for a five-year term. The relationship existing between the Queen and the British Parliament is broadly the same as that existing between the Governor and the Tasmanian Parliament.

Authority

The Governor's authority is derived from Letters Patent (issued in 1900) under the Great Seal of the United Kingdom, from the Commissions of Appointment and from the Governor's Instructions issued under the Royal Sign Manual and Signet.

Powers and Duties

The Governor summons and prorogues Parliament; in special circumstances he may dissolve it after considering the advice of his Premier. Bills which have passed all stages in Parliament are submitted to the Governor for his assent although there are some subjects which are specifically reserved for the Royal Assent (e.g. a Bill granting land or money to the Governor). He opens each session of Parliament by outlining the legislative programme of the Government which, irrespective of its party affiliation, he refers to as 'My Government', but takes no other part in the sittings of either House.

His executive powers include the appointment of Ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing Ministers of the Crown, the Governor creates the Executive Council of the day and he is required by his instructions to be guided by the advice of this body. Should he feel it necessary to act against the advice of the Executive Council, he may do so, but the reasons for such action must be immediately reported to the Queen. The Governor's relations with the Executive Council and with Cabinet are more fully discussed in the section headed 'The Cabinet and Executive Government'.

The Governor has the power to pardon, reprieve and remit sentences and fines. In such cases he is required to seek the advice of at least one Minister. He also has the power to appoint a deputy to act in his stead during his absence (for a period of less than one month) from the seat of government, whether within or outside the State. If the Governor is to be absent for a period in excess of one month, the Chief Justice, by virtue of the Dormant Commission, acts as Administrator of the Government. Further reference to the Governor's discretionary powers will be found under the section headed 'Dissolution of Parliament'. On all official State occasions, he performs the ceremonial functions as the representative of the Crown.

Present Governor

All Tasmanian Governors since the first settlement have come from the United Kingdom, although in some other States and the Commonwealth, Australians either hold or have held the vice-regal office. Lt-General Sir Edric Bastyan, a former Governor of South Australia was sworn-in on 2 December 1968 as Governor of Tasmania succeeding Lt-General Sir Charles Gairdner.

Lieutenant-General Sir Edric Montague Bastyan, KCMG, KCVO, KBE, CB

Born in England on 5 April 1903, married Victoria Eugenie Helen Batt 1944. Entered Sandhurst Royal Military College in 1921 at the age of 18. Graduated in 1923 with the rank of 2nd Lieutenant. Served with the Sherwood Foresters, 1923; West Yorkshire Regiment, 1935; Royal Irish Fusiliers, 1937; and the 53rd Welsh Infantry Division (TA) and Mid West District (Commander) 1952-1955. He saw active service in Palestine, 1938-1939; with the Eighth Army in Africa and Italy, 1939-1943; and in south-east Asia, 1944-45. Post war service included a period as Major-General-in-Charge Administration, British Army of the Rhine, 1946-1948; Chief of Staff, Eastern Command, 1949-1950; Vice-Adjutant General War Office, 1955-1957; and until his retirement Commander, British Forces, Hong Kong, 1957-1960.

Sir Edric served as Governor of South Australia, 1961 to 1968, before taking office as Governor of Tasmania on 2 December 1968.

Honours

Another function of the Governor is the investing of all honours awarded to Tasmanians in the Queen's Birthday and New Year Honours Lists, except for knighthoods which are normally dubbed by the Governor-General in Canberra.

The Administrator

In the Letters Patent of 1900 (as amended in 1934), provision was made for a Lieutenant-Governor to administer the Government in the event of the Governor's death, incapacity, removal or absence from the State. Should there be no Lieutenant-Governor then appointed or should he be unable to act, the duties of the Governor were to be discharged by the Administrator. Attached to the Letters Patent was a Dormant Commission authorising the Chief Justice to act as Administrator 'in the event of the death, incapacity or absence of the Governor and the Lieutenant-Governor, if any'.

Lieutenant-Governors have often acted in place of the Governor but since 1943 it has been customary for the Chief Justice to act as Administrator in accordance with the provisions of the Dormant Commission which further nominates the next Senior Judge to act in the absence of the Chief Justice. (The last Lieutenant-Governor appointed was Sir John Evans, 1937-1943.)

The present Chief Justice is Sir Stanley Burbury, KBE, who has already acted as Administrator in the intervals between governorships and on other occasions.

Succession of Governors

The next table shows the succession of governors from the time of Lieutenant Bowen's settlement in 1803. The list of Administrators and Lieutenant-Governors is restricted to those whose inclusion is necessary to maintain a continuous time series (i.e. short periods of relief during a governorship are excluded). The title 'governor' was first used by Sir H. E. Fox Young, under whose administration the colony graduated to self-government.

The terms of office fall into four eras: (i) the governor directly responsible to N.S.W.; (ii) governor independent of N.S.W.; (iii) colonial self-government; and (iv) post-federation.

Succession of Governors, Acting Governors, Administrators, etc. from 1803

Name	Designation	Period
(i) 1803-1825		
Lieut John Bowen	Commandant	11. 9.03 - 16. 2.04
Colonel David Collins, R.M.	Lieutenant-Governor	16. 2.04 - 24. 3.10
Lieut Edward Lord, R.M.	Commandant	24. 3.10 - 8. 7.10
Captain J. Murray, 73rd Regt	Commandant	8. 7.10 - 20. 2.12
Major A. Geils, 73rd Regt (a)	Commandant	20. 2.12 - 4. 2.13
Colonel Thomas Davey, R.M.	Lieutenant-Governor	4. 2.13 - 9. 4.17
Colonel William Sorell	Lieutenant-Governor	9. 4.17 - 14. 5.24
Colonel George Arthur (b)	Lieutenant-Governor	14. 5.24 - 3.12.25
(ii) 1825-1855		
Colonel George Arthur (b)	Lieutenant-Governor	6.12.25 - 29.10.36
Lt-Col K. Snodgrass	Administrator	29.10.36 - 5. 1.37
Sir J. Franklin, KCH, R.N.	Lieutenant-Governor	5. 1.37 - 21. 8.43
Sir J. E. Eardley-Wilmot, Bart	Lieutenant-Governor	21. 8.43 - 13.10.46
C. J. La Trobe, Esq.	Administrator	13.10.46 - 25. 1.47
Sir W. T. Denison	Lieutenant-Governor	25. 1.47 - 8. 1.55
(iii) 1855-1900		
Sir H. E. Fox Young	Governor	8. 1.55 - 10.12.61
Colonel Thomas Gore Browne, CB	Governor	10.12.61 - 30.12.68
Lt-Col W. C. Trevor, CB	Administrator	30.12.68 - 15. 1.69
Charles Du Cane, Esq.	Governor	15. 1.69 - 28.11.74
Hon. Sir Francis Smith, CJ	Administrator	28.11.74 - 13. 1.75
F.A. Welds, Esq.	Governor	13. 1.75 - 5. 4.80
Hon. Sir Francis Smith, CJ	Administrator	5. 4.80 - 21.10.80
Lt-General Sir J. H. Lefroy, KCMG, CB	Administrator	21.10.80 - 7.12.81
Sir G. C. Strahan, RA, KCMG	Governor	7.12.81 - 28.10.86
Hon. W. R. Giblin, Esq. SJ	Administrator	28.10.86 - 18.11.86
Hon. Sir W. L. Dobson, CJ	Administrator	18.11.86 - 11. 3.87
Sir R. G. C. Hamilton, KCB	Governor	11. 3.87 - 30.11.92
Hon. Sir W. L. Dobson, CJ	Administrator	30.11.92 - 8. 8.93
Rt Hon. J. W. Joseph, Viscount Gormanston, KCMG	Governor	8. 8.93 - 14. 8.00
(iv) 1900—		
Sir John Dodds, KCMG	Administrator	14. 8.00 - 8.11.01
Sir A. E. Havelock, GCSI, GCME, GCIE	Governor	8.11.01 - 16. 4.04
Sir John Dodds, KCMG	Lieutenant-Governor	16. 4.04 - 28.10.04
Sir G. Strickland, KCMG	Governor	28.10.04 - 20. 5.09
Sir John Dodds, KCMG	Lieutenant-Governor	20. 5.09 - 29. 9.09
Sir Harry Barron, KCMG, CVO	Governor	29. 9.09 - 8. 3.13
Sir John Dodds, KCMG	Lieutenant-Governor	8. 3.13 - 4. 6.13
Sir William Ellison-Macartney, KCMG	Governor	4. 6.13 - 31. 3.17
Sir Herbert Nicholls	Administrator	31. 3.17 - 6. 7.17
Sir F. A. Newdigate Newdegate, KCMG	Governor	6. 7.17 - 9. 2.20
Sir Herbert Nicholls	Administrator	9. 2.20 - 16. 4.20
Sir W. L. Allardyce, KCMG	Governor	16. 4.20 - 26. 1.22
Sir Herbert Nicholls	Administrator	26. 1.22 - 30.11.23
Hon. N. K. Ewing, Esq.	Administrator	30.11.23 - 13. 6.24
Sir Herbert Nicholls	Administrator	13. 6.24 - 23.12.24
Sir James O'Grady, KCMG	Governor	23.12.24 - 23.12.30
Sir Herbert Nicholls, KCMG	Lieutenant-Governor	23.12.30 - 4. 8.33
Sir Ernest Clark, GCMG, KCB, CBE	Governor	4. 8.33 - 4. 8.45
Sir John Morris	Administrator	4. 8.45 - 24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45 - 8. 5.51
Sir John Morris, KCMG	Administrator	8. 5.51 - 22. 8.51

Succession of Governors, Acting Governors, Administrators, etc.—continued

(iv) 1900—

Name	Designation	Period
Rt Hon. Sir Ronald Cross, Bart, KCMG, KCVO ..	Governor	22. 8.51 - 4. 6.58
Hon. Sir Stanley Burbury, KBE	Administrator	4. 6.58 - 21.10.59
Rt Hon. the Lord Rowallan, KT, KBE, MC ..	Governor	21.10.59 - 25. 3.63
Hon. Sir Stanley Burbury, KBE	Administrator	25. 3.63 - 24. 9.63
Lt-General Sir Charles Gairdner, KCMG, KCVO, KBE, CB	Governor	24. 9.63 - 11. 7.68
Hon. Sir Stanley Burbury, KBE	Administrator	11. 7.68 - 2.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB	Governor	2.12.68 -

- (a) Originally the Launceston settlement had its own officials appointed from N.S.W. Lieut-Governor W. Paterson was followed, as Commandant, by Captain J. Brabyn and Major G. A. Gordon. The next, Captain J. Ritchie, took office on 1 July 1812 subordinate to Major A. Geils.
- (b) On 3 December 1825, Lt-General Sir Ralph Darling displayed in Hobart two commissions, one as Governor of N.S.W. and one as Governor of Van Diemen's Land. This was the device for separating Van Diemen's Land from N.S.W. Colonel George Arthur was sworn in again as Lieutenant-Governor on 6 December 1825.

The Cabinet and Executive Government*General*

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that the head of the State (in Tasmania, the Governor representing Her Majesty the Queen) should perform governmental acts on the advice of his Ministers; that he should choose his principal Ministers of State from members of Parliament belonging to the party, or coalition of parties, commanding a majority in the popular House; that the Ministry so chosen should be collectively responsible to that House for the government of the country; and that the Ministry should resign if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of the government at all. In law, still, the executive power of the State is exercised by the Governor who is advised by the Executive Council which he himself has appointed and which meets for certain formal purposes. The whole policy of a Ministry is, in practice, determined by the Ministers of the Crown, meeting without the Governor under the chairmanship of the Premier, and this body is known as the Cabinet.

The Cabinet

This body does not form part of the legal mechanism of government and its meetings are private and deliberative. Only the Ministers of the day are present, no records of the meetings are made public, and the decisions taken have, in themselves, no legal effect. As Ministers are the leaders of the party commanding a majority in the House of Assembly, the Cabinet substantially controls not only the general legislative programme of Parliament, but the whole course of Parliamentary proceedings. In effect, though not in form, the Cabinet, by reason of the fact that all Ministers are members of the Executive Council, is also the dominant element in the executive government of the State. Even in summoning, proroguing or dissolving Parliament, the Governor is usually guided by the advice tendered him by the Cabinet, through the Premier, though legally the discretion is vested in the Governor.

In Tasmania, the present Cabinet consists of the 11 Ministers of the Crown including the Premier, most of whom hold more than one portfolio.

The Executive Council

This body is usually presided over by the Governor, the members thereof holding office during his pleasure. All Ministers of the Crown must be members of the Executive Council. Ministers actually remain members of the Executive Council on leaving office, but are not summoned to its meetings, for it is an essential feature of the Cabinet system that attendance should be limited to the Ministers of the day. The Chief Justice and Judges of the Supreme Court are also members of the Executive Council, but they too are not summoned to its meetings for the same reason. The meetings of the Executive Council are formal and official in character, and a record of proceedings is kept by the Clerk (who is the permanent head of the Premier's and Chief Secretary's Department). At Executive Council meetings, the decisions of Cabinet are (where necessary) given legal form, appointments made, resignations accepted, proclamations issued, and regulations and the like approved. The quorum required is three, comprising the Governor and at least two Ministers.

The Appointment of Ministers

Legally, Ministers hold office during the pleasure of the Governor. In practice, however, the discretion of the head of State in the choice of Ministers is limited by the conventions on which the Cabinet system rests. When a Ministry resigns, the Governor's custom is to send for the leader of the party which commands a majority in the lower House, and to commission him, as Premier, to 'form a Ministry'—that is, to nominate other persons to be appointed as Ministers of the Crown and to serve as his colleagues in the Cabinet.

The *Constitution Act* 1854 defined the Parliament of Tasmania as 'the Governor and the Legislative Council and House of Assembly together'. Although no legal requirements enforce it, the selection of all Ministers of the Crown from Parliament stems from the British tradition and sharply contrasts with the American system which requires its Ministers not to be members of Congress.

Ministry

After the elections held on 22 April 1972, the Ministry led by the Hon. E. E. Reece, was announced as follows:

Ministry at 3 May 1972

Name	House	Responsibility (a)
The Hon. E. E. Reece	Assembly	Premier, Treasurer, Mines
The Hon. M. G. Everett, QC	Assembly	Deputy-Premier, Attorney-General, Environment, Racing and Gaming
The Hon. W. A. Neilson	Assembly	Education
The Hon. N. L. C. Batt	Assembly	Chief Secretary, Transport
The Hon. L. E. A. Costello	Assembly	Agriculture, Fisheries
The Hon. M. T. C. Barnard	Assembly	Lands and Works, Local Government
The Hon. A. J. Foster	Assembly	Health, Social Welfare, Road Safety
The Hon. R. F. Fagan	Assembly	Industrial Development, Forests, Hydro-Electric Commission
The Hon. D. A. Lowe	Assembly	Housing
The Hon. B. K. Miller	Legislative Council	Tourism, Police, Licensing

(a) See section 'The Present System of Government' later in chapter for fuller statement of responsibility.

Premiers

The following is a list of the Premiers of Tasmania from 1856 (the year in which the first elected Parliament sat):

Premiers from 1856

Name of Premier	Term of Office		Duration of Office (Months)
	From	To	
1856-1900			
W. T. N. Champ	1.11.56	26. 2.57	4
T. G. Gregson	26. 2.57	25. 4.57	2
W. P. Weston	25. 4.57	12. 5.57	1
F. Smith	12. 5.57	1.11.60	42
W. P. Weston	1.11.60	2. 8.61	9
T. D. Chapman	2. 8.61	20. 1.63	18
J. Whyte	20. 1.63	24.11.66	46
Sir Richard Dry	24.11.66	4. 8.69	32
J. M. Wilson	4. 8.69	4.11.72	39
F. M. Innes	4.11.72	4. 8.73	9
A. Kennerley	4. 8.73	20. 7.76	36
T. Reibey	20. 7.76	9. 8.77	13
P. O. Fysh	9. 8.77	5. 3.78	7
W. R. Giblin	5. 3.78	20.12.78	9
W. L. Crowther	20.12.78	30.10.79	10
W. R. Giblin	30.10.79	15. 8.84	58
Adye Douglas	15. 8.84	8. 3.86	19
J. W. Agnew	8. 3.86	29. 3.87	13
P. O. Fysh	29. 3.87	17. 8.92	65
H. Dobson	17. 8.92	14. 4.94	20
Sir Edward Braddon	14. 4.94	12.10.99	66
1900-			
Sir N. E. Lewis	12.10.99	9. 4.03	42
W. B. Propsting	9. 4.03	11. 7.04	15
J. W. Evans	11. 7.04	19. 6.09	59
Sir N. E. Lewis	19. 6.09	20.10.09	4
J. Earle (a)	20.10.09	27.10.09	..
Sir N. E. Lewis	27.10.09	14. 6.12	32
A. E. Solomon	14. 6.12	6. 4.14	22
J. Earle (a)	6. 4.14	15. 4.16	24
Sir Walter Lee	15. 4.16	12. 8.22	76
J. B. Hayes	12. 8.22	14. 8.23	12
Sir Walter Lee	14. 8.23	25.10.23	2
J. A. Lyons (a)	25.10.23	15. 6.28	56
J. C. McPhee	15. 6.28	15. 3.34	69
Sir Walter Lee	15. 3.34	22. 6.34	3
A. G. Ogilvie (a)	22. 6.34	10. 6.39	60
E. Dwyer Gray	11. 6.39	18.12.39	6
R. Cosgrove	18.12.39	18.12.47	96
E. Brooker	18.12.47	25. 2.48	2
R. Cosgrove	25. 2.48	26. 8.58	126
E. E. Reece	26. 8.58	26. 5.69	129
W. A. Bethune	26. 5.69	3. 5.72	35
E. E. Reece	3. 5.72		

(a) Tasmania had an unbroken succession of Labor Premiers, starting with the Ogilvie Ministry (1934), until the resignation of the Reece government (following electoral defeat) on 26 May 1969; earlier Labor Ministries were led by J. Earle (first in 1909) and by J. A. Lyons.

Relations of Two Houses

Status of Legislative Council

A vexed question for many years was the exact status of the Legislative Council in relation to the House of Assembly from which the Ministry of the day was predominantly chosen. The 1854 Constitution Act had defined Parliament as 'the Governor and the Legislative Council and House of Assembly together' and obviously the approval of all three was necessary for laws to become valid; on the other hand, there was no adequate provision for resolving situations in which the Legislative Council rejected bills or amended bills in ways unacceptable to the House of Assembly. The lower house was elected on a wider franchise, and could legitimately claim to be the more accurate instrument of public opinion to the extent that it was not a perpetual body like the Legislative Council, as its members were all elected at the one time. (Only in 1968 was legislation passed to introduce adult franchise for Legislative Council elections.) The power of the Legislative Council to reject and amend was most resented in relation to money bills, since these vitally affected the administration of public affairs by the Ministry of the day.

The Conflict of 1924 and 1925

The 1924-25 Appropriation Bill was amended by the Legislative Council, involving a reduction of \$37,000. The Premier (J. A. Lyons) decided to challenge the right of the upper house to amend money bills; after a two-house conference had failed to reach agreement, the House of Assembly voted 17 to 10, directing the Speaker to seek Royal Assent for the bill 'in the form it passed the House of Assembly'.

The Administrator gave assent to the bill following consultation with the Secretary of State in London and Tasmanian Crown law officials and it went on to the statute book.

By 1925, a new Governor (Sir James O'Grady) had taken up office but he followed the precedent set by the Administrator, giving assent to 'one-house' bills.

A joint committee was established in 1925 to formulate constitutional changes that would resolve the situation and define the relations of the two houses in the passing of money bills. This resulted in the passage of the *Constitutional Amendment Act 1926*.

The following current principles are found in the Act: (i) the Legislative Council retains the right to reject any bill, including a money bill; (ii) the Council is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax; (iii) it can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly; and (iv) the operation of such bills is restricted to a period of one year. Apart from the above specific exceptions, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two houses are declared equal in all matters except for these specific exceptions.

Deadlocks

The Legislative Council has the tradition of being a non-party house; in 1972 the composition of the house was 17 independents and two Labor Party representatives. The leader for the Government in the Legislative Council cannot rely upon a vote taken on party lines to ensure the passage of any government bill. It is the ability to command a majority in the House of Assembly which gives a party the right to form the government of the day and which ensures the passage of government legislation through the lower house; no such certainty exists in the passage of bills through the upper house and accordingly the Legislative Council is in a position to exercise considerable influence on the form in which bills are finally passed through both houses.

As from July 1964, the Liberal Party reversed its policy of non-endorsement of candidates for the Legislative Council and will endorse candidates in particular circumstances.

Consultation Machinery

When a position is reached in which one house refuses to accept the amendments or legislation of the other, provision exists under the Standing Orders for joint consultation by the calling of a 'Free Conference' at which each house is represented by 'managers'. (It is usual for each house to be represented by four managers.) The free conference endeavours to find a compromise acceptable to both houses.

Another form of consultation between the two houses is the appointment of a joint select committee which is set terms of reference and which is primarily concerned with fact-finding. The passage of a bill may be temporarily delayed while a joint select committee makes a specific investigation; this machinery provides members with the information necessary to cast an informed vote.

Parties

In the period 1909-1972, the major parties have been the Labor Party and the Liberal Party (which replaced the Nationalist Party in 1948). In the early 1920s, a Country Party appeared with five members in the House of Assembly but soon went out of existence. At the 1964 Assembly elections, a number of Country Party candidates stood but none was successful. In October 1966 K. O. Lyons, one of the House of Assembly members for Braddon, resigned from the Liberal Party and formed the Australian Centre Party, an organisation affiliated with the Australian Country Party. At the 1969 elections the Centre Party had one representative returned to the House of Assembly; however, at the 1972 elections the Party did not field any candidates.

Dissolution of Parliament

The Governor may dissolve the House of Assembly whenever he considers it desirable but he has no power to dissolve the Legislative Council. In effect then, the Legislative Council is a perpetual body except that approximately one-sixth of its seats falls vacant annually. As there is no provision for a double dissolution the Legislative Council, by rejection of a supply bill, can force the House of Assembly to seek a dissolution without itself needing to face the electorate. This last occurred in 1948.

In practice, the Governor considers dissolving the House of Assembly only when requested to do so by his Ministers. In recent years the House of Assembly has been dissolved three times; in 1950, 1956 and again in 1972.

Sessions of Parliament

Parliament is required to sit every year and, having risen, must sit again before 12 months have elapsed. When the House of Assembly is dissolved and a general election held, the Governor is required to call Parliament together within 90 days of the dissolution, subject to a discretionary extension of a further 30 days.

Elections for the House of Assembly*Tasmanian System*

Elections for the House of Assembly are conducted under a system which can be classified as proportional representation by the single transferable vote.

The essential features of the system are as follows:

- (i) For an elector to cast a valid vote, he must express at least three preferences.
- (ii) Names on the voting papers are arranged in distinct groups to facilitate recognition of allegiance to parties (but names of parties are not specified).
- (iii) To secure election, candidates must secure a quota in accordance with the Droop formula (i.e. the total first-preference votes in the constituency divided by eight, plus one vote).

- (iv) Should a candidate secure an exact quota on first preferences, his voting papers are set aside as finally dealt with.
- (v) If the first successful candidate secures a surplus above the quota, then all his voting papers are re-examined to determine which candidates should secure the second preferences.
- (vi) The second preferences are first adjusted by multiplying them by a fraction called the transfer value. The transfer value is calculated by dividing the successful candidate's surplus first-preference votes by his total first preferences. The second-preference votes, adjusted in this way, are now transferred to other candidates.
- (vii) When repetition of the above process results in a position where no further candidates can reach a quota, the candidate who is lowest on the poll is excluded and the preferences shown on his voting papers transferred to the remaining candidates.

The above processes are repeated until seven candidates have been elected. As might be expected, the counting of votes, calculation of transfer values and the transferring of votes are time-consuming operations and a week may elapse before the declaration of a poll.

Commencement of the System

In 1907, an Electoral Act provided that all members of the House of Assembly were to be elected by proportional representation, the State being divided into five constituencies each of which was to be represented by six members. The first election in accordance with this Act was held in 1909.

The fourth schedule to the 1907 Act dealing with quotas, transfer of votes, exclusion of candidates, etc. is still the blue-print for counting votes today; however, as from the 1959 elections, the number of members for each constituency was increased from six to seven, a measure designed to avoid Parliamentary deadlocks.

Advantages

The major advantage claimed for the system is that the composition of the House of Assembly tends to faithfully reflect the wishes of the electors viewed on a State basis, and that a party with a minority of first preferences is most unlikely to obtain a majority of seats, as sometimes occurs in systems with single-member constituencies. By way of example, South Australia, using single-member electorates has sometimes been governed by parties receiving a minority of votes but a majority of seats; other Australian States have had similar experience.

Leaving aside the matter of independents and minority parties, and assuming that only candidates from the two major parties are elected, then the present normal pattern is for each constituency to elect four candidates from one of the major parties and three from the other. It follows, therefore, that the opposition is normally always adequately represented in the House of Assembly and supporters of the opposition party always have representatives for their constituency.

Effectiveness of System

Since voting for the House of Assembly requires a voter to make at least three choices in order of preference, any complete investigation of the effectiveness of the system requires a study of all preference votes. However, an approximate measure of effectiveness can be obtained by treating the State as a single electorate and finding the total first-preference votes obtained by each party; from these totals it is possible to calculate, by simple proportion, the theoretical share of seats to which each party is entitled. In the table that follows, this measure of effectiveness has been calculated for all House of Assembly elections in the period 1931-1972 inclusive. It will be seen that although the relationship between seats actually won and the calculated proportionate share is fairly close in most elections for the major parties, a change in the number

of members elected for each electorate after the 1959 election has partially unbalanced this relationship. At the 1972 elections, the contending parties were Labor Party and Liberal Party, while a number of candidates stood as independents, and in addition a number of persons without party affiliations stood as the United Tasmania Group on a conservation platform.

Representation of Parties for the Whole State, 1931-1972

House of Assembly

Election Year	Labor		Liberal (from 1948) or Nationalist		Other (b)	
	Proportionate Share (a)	Seats Won	Proportionate Share (a)	Seats Won	Proportionate Share (a)	Seats Won
1931	10.47	10	16.92	19	2.61	1
1934	13.74	14	14.01	13	2.25	3
1937	17.61	18	11.64	12	0.75	..
1941	18.78	20	10.98	10	0.24	..
1946	15.29	16	10.27	12	4.44	2
1948	14.82	15	11.35	12	3.83	3
1950	14.59	15	14.27	14	1.14	1
1955	15.79	15	13.60	15	0.61	..
1956	15.08	15	13.08	15	1.84	..
1959 (c)	15.58	17	14.37	16	5.05	2
1964	17.97	19	13.47	16	3.56	..
1969	15.91	17	14.68	17	4.41	1
1972	19.23	21	13.43	14	2.34	..

(a) State treated as single electorate and proportionate share of seats calculated on basis of first preference votes cast for parties.

(b) Independents and minority parties.

(c) 35 members elected as from 1959.

Use of the System

Many regard the system of election for the House of Assembly as being a phenomenon peculiar to Tasmania. This is by no means so, since the following countries either use or have used a similar system of election: Republic of Ireland (both Houses), South Africa (Senate), Malta (both Houses), Gibraltar (Legislative Council), Canada (for some provincial electorates in Alberta and Manitoba) and Australia itself, in the election of the Federal Senate. If the State has any claim to being unique in the field of electoral reform, it must be based on the fact that Tasmania was the first country in the world to introduce proportional representation by the single transferable vote.

The Problem of Equitable Representation

Following the 10 May 1969 election considerable criticism was made of the Hare-Clark preferential voting system. Critics claim that single-member electorates would have more closely reflected the feelings of the electorate and would have ensured more equitable representation for all areas, rather than a concentration of members in a particular part of an electorate as is possible due to the large size of Tasmanian electorates. Of the 35 members in the House of Assembly, 18 reside in the Hobart metropolitan area, 12 in other urban centres and only five in the rural areas of the State.

The population distribution in Tasmania is unlike that of any other Australian State because: (i) the metropolitan area is not the dominant population concentration; and (ii) the rural area of the State has a higher proportion of the total population than in any other State. In 1971 only 33.3 per cent of the population was found in the Urban Hobart area; 40.1 per cent in other urban areas; and 26.5 per cent in the rural areas.

It is evident that when these figures are compared with the places of residence of House of Assembly members that the rural areas appear to be under-represented and the urban areas over-represented.

The position is reversed for the Legislative Council single member seats where 'rural' and 'special' electorates account for nine of the 19 seats.

Votes Recorded at Assembly Elections

The last general election for the House of Assembly was held on 22 April 1972. Voting in general elections for the House of Assembly since 1931 is shown in the following table:

Assembly Elections Since 1931

Year of Election	Electors on Roll	Votes Recorded		Informal Votes	
		Number	As Percentage of Enrolled Electors	Number	Percentage of Total Votes Recorded
1931	118,730	112,779	95.0	3,885	3.4
1934	127,681	120,622	94.5	3,855	3.2
1937	132,001	124,460	94.3	2,997	2.4
1941	139,234	127,034	91.2	6,344	5.0
1946	157,756	143,674	91.1	14,484	10.1
1948	161,088	148,588	92.2	5,886	3.9
1950	161,650	152,785	94.5	6,841	4.5
1955	173,165	162,637	93.9	6,158	3.8
1956	174,632	166,293	95.2	6,968	4.2
1959	180,344	170,559	94.6	9,816	5.8
1964	193,364	184,571	95.5	7,980	4.3
1969	210,268	198,571	94.4	9,248	4.7
1972	216,846	205,803	94.9	7,533	3.7

The percentage of informal votes in the previous table is not particularly high, even though the voting papers for six or seven-member electorates are necessarily more complicated than those for single-member electorates. In Senate elections held in Tasmania, informal votes tend to be rather a large proportion of votes cast and, in the 1934 election, exceeded 16 per cent. In Assembly elections, only three preferences are compulsory whereas in Senate elections, the voter must indicate as many preferences as there are candidates.

Resolution of Assembly Deadlocks

House of 30 Members

One of the virtues claimed for the Hare-Clark system is the adequate representation given to minorities. In a small House of 30 members, this virtue tended to be too evident and led to situations where the government of the day did not have the necessary majority to carry all its legislation with confidence.

The first remedy employed was the *Constitution Amendment Act* 1954 which provided that, in the event of a 15-all draw between the two major parties in an election, an Electoral Commission would be established. This body's function would be to decide, on the basis of primary votes cast for each party, which were the majority and minority parties. On the meeting of the House, the minority party would then have the right to nominate one of its members to the office of Speaker. If the minority party refused to exercise this right, then the majority party might proceed to appoint one of its own members and it would receive an additional member in replacement, elected from the Speaker's constituency.

The 1954 Act provided machinery for overcoming deadlocks but still did not have much impact on the major problem—that of providing the government of the day with an effective working majority.

House of 35 Members

In 1958, a further constitutional amendment was made in which the number of members to be elected for each constituency was increased from six to seven, thus enlarging the House of Assembly from 30 to 35 members. At the first elections held under the provisions of this amendment (May 1959), the major parties secured 17 and 16 seats respectively, the remaining seats being won by independents.

The Howatt Proposal

During the life of the 1969-72 Parliament Dr George Howatt, an expert in electoral procedures, suggested a method for amending the Hare-Clark system, the aim being to give any future government a more effective majority in the lower house.

The essence of the suggested change is as follows: (i) the first six members in each electorate are to be declared elected in the usual way; (ii) the votes cast are to be examined for the State as a whole to determine the majority party; (iii) the seventh member in each electorate is then elected from candidates belonging to the majority party. Dr Howatt claimed that if this method had been used in the 1969 election, then the composition of the house would have been 19-15-1, and not 17-17-1.

At first examination, the Howatt proposal would appear to be giving the majority party an unmerited bonus of five extra seats, but this is not so. In past situations the majority party normally obtained a fourth seat from three of the electorates while the minority gained four seats in two electorates. Thus, if the Howatt proposals were introduced, the effect would be to give the majority party only two or possibly three extra members.

The justification for the proposal is the low number of electorates (five) which tends to prevent either main party gaining a clear majority, especially if independents or members of the smaller parties win one or two seats.

Life of House of Assembly

After the *Constitution Act* 1936, the House was elected for five-year terms. The 1954 Act provided that the term should be reduced to three years if the special deadlock provisions were invoked to appoint a Speaker, but the 1958 Act restored five-year terms irrespective of the outcome of the election. In 1969, the life of the House was reduced to three years by the newly-elected Bethune Government.

When Labor was returned to office in April 1972 the Premier, Mr Reece, introduced legislation to restore a five-year term for the House of Assembly. The Bill was passed by the House in June 1972. However, a number of members of the Legislative Council had voiced strong objections to restoration of a five-year term for the House of Assembly. A conference between the Premier and Council members failed to resolve the issue. The term of office for the House of Assembly was amended from five to four years by the Council and the Bill returned to the Lower House for ratification of the amendment. Following the rejection of the amended Bill by the House of Assembly a conference of managers from the two houses was called. After lengthy debate a compromise solution, which proved acceptable to both Houses, was reached. The compromise agreed to was: (i) term for the present House of Assembly, five years; (ii) House of Assembly terms following completion of the present term, four years; and (iii) no future alterations to House of Assembly terms unless two-thirds of the House's members agree to the change.

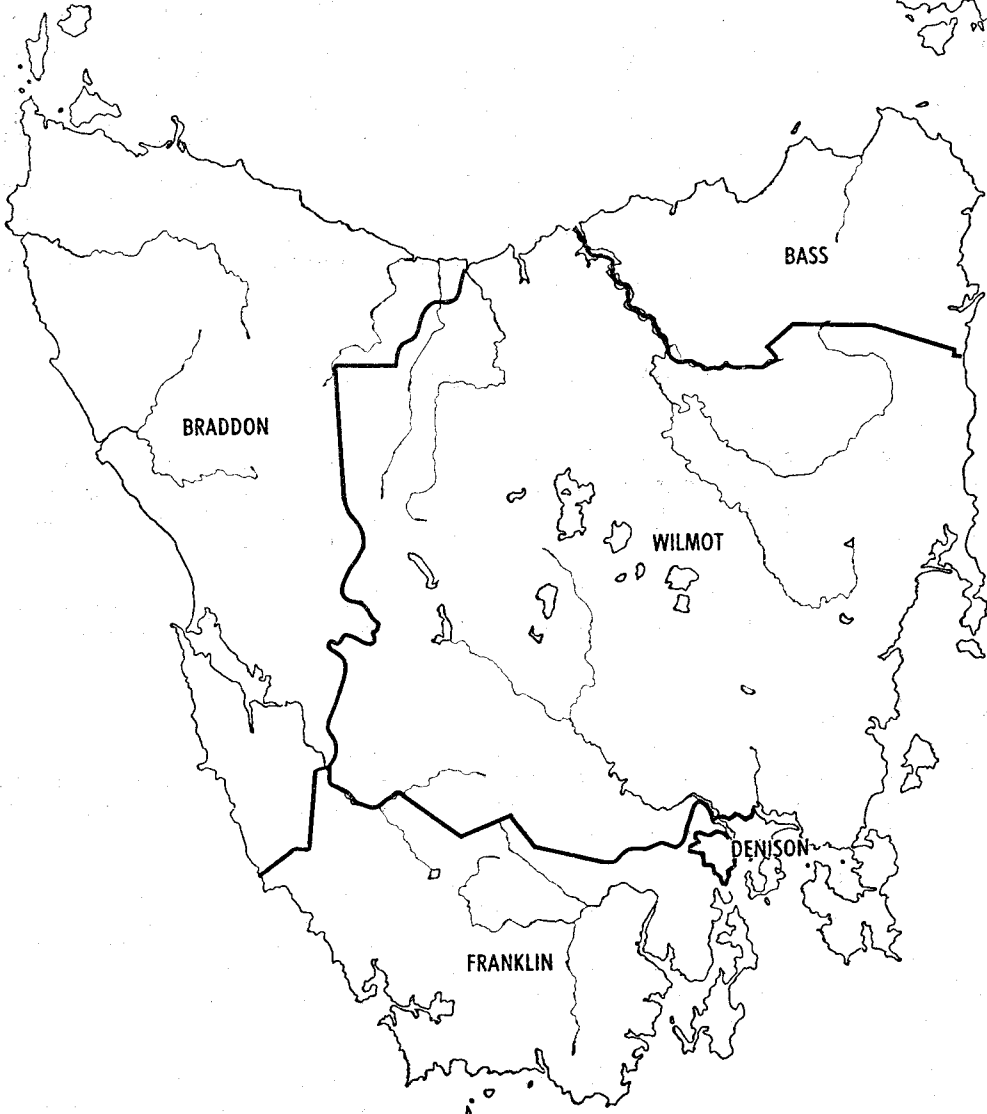
Constituencies of House of Assembly

The five constituencies for the House of Assembly are identical with the five electoral divisions electing members to the Federal House of Representatives. The periodic alteration of electoral boundaries to accord with changes in population is carried out under a joint Commonwealth-State agreement, the most recent redistribution becoming effective in November 1968.

ELECTORAL DIVISIONS

STATE.....House of Assembly

FEDERAL...House of Representatives



Alteration of Electoral Boundaries

The following table summarises the effect of the 1968 Electoral Commissioners' redistribution for Tasmania (the number of electorates remained unaltered). The preceding map and table which follows, show the composition and extent of each electorate.

Enrolments by Electorate (a)

Electorate	Enrolments				
	Old Boundaries	New Boundaries			
		31 May 1968 (b)	30 June		
			1969	1970	1971
Bass	40,139	40,139	40,860	40,885	41,351
Braddon	41,803	41,803	44,021	44,259	45,678
Denison	35,353	42,917	44,900	45,945	44,396
Franklin	49,026	37,203	39,335	40,040	42,248
Wilmot	37,103	41,362	42,779	42,664	43,173
Total	203,424	203,424	211,895	213,793	216,846

(a) Electorate boundaries changed for the divisions of Denison, Wilmot and Franklin.

(b) Although boundary changes did not become effective until 25 November 1968 the enrolment figures at 31 May 1968 show the immediate effect of the changes.

Elections for the Legislative Council*Annual Fractional Elections*

For the purpose of electing members of the Legislative Council, the State is divided into 19 single-member constituencies. Each member, when elected, holds office for six years and Council elections are held every year to elect three members; every sixth year four members are elected. There are no general elections for the Legislative Council.

Should any seat become vacant otherwise than by effluxion of time, the person elected to fill the vacancy holds office only until the expiration of the period for which the vacating member was elected.

Preferential Voting

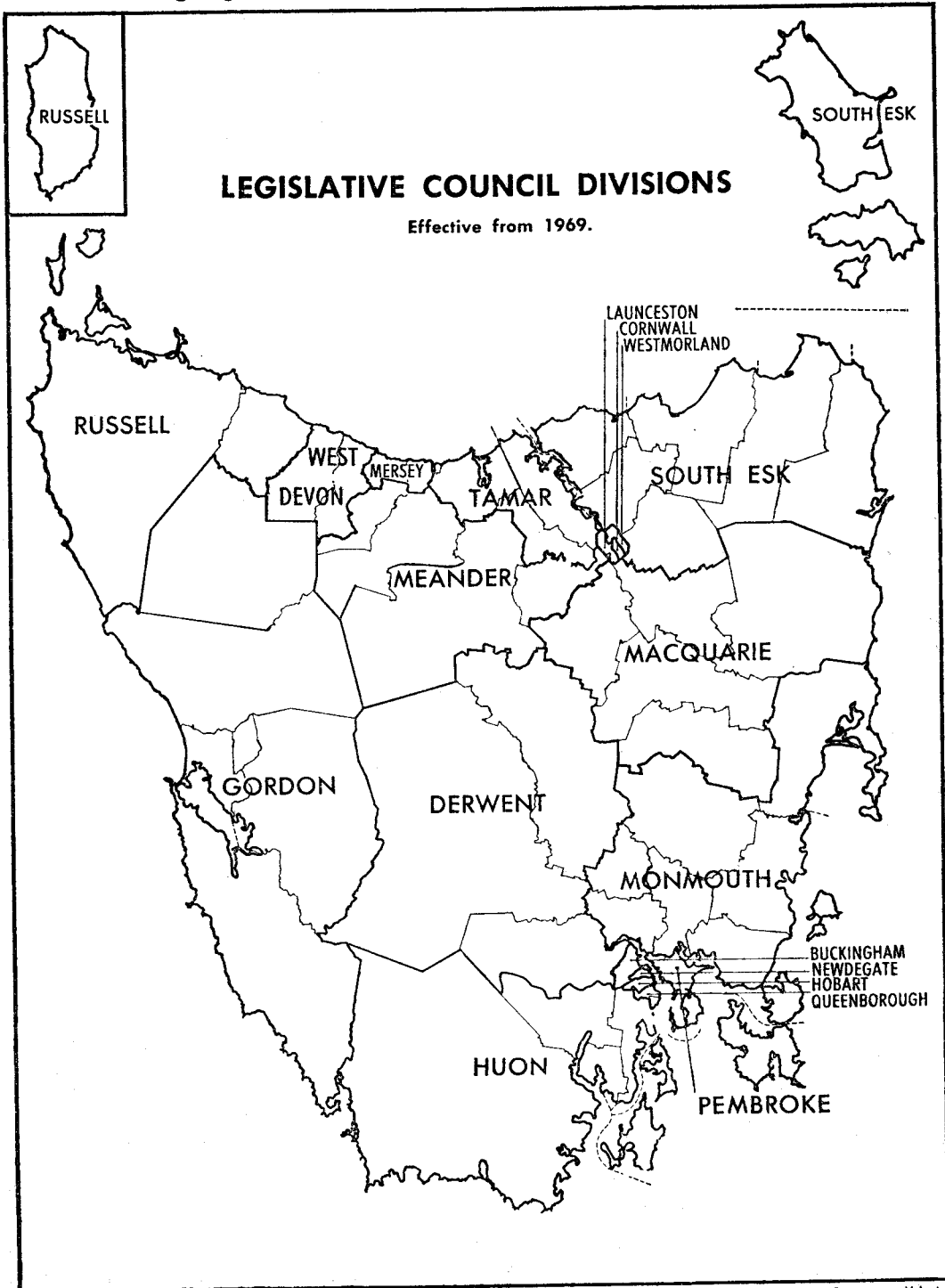
Candidates appear on the voting paper in alphabetical order and are not grouped to show party allegiance as in voting papers for the House of Assembly. If there are two candidates, the voter need only vote for one. If there are three or more candidates, the voter must indicate at least three preferences to record a valid vote.

If any candidate secures first-preference votes exceeding half the total first preferences, he is declared elected. If no candidate satisfies this condition, then the candidate with the fewest votes is excluded and the second preferences shown on his voting papers are transferred to other candidates, the transfer value of each such second preference being equal to one. If no candidate then has the required majority, the process of exclusion is repeated until such time as one candidate secures the majority.

The method of counting is identical with that used in elections for the Federal House of Representatives and is termed preferential. The full description is election by absolute majority through use of the alternative vote.

Boundaries, Legislative Council Divisions

The following map illustrates the current boundaries of the Legislative Council divisions.



Late in 1967, the *Constitution Act* 1934 was amended to change the boundaries of the Legislative Council Divisions, the new boundaries being used for the first time in 1969. The following table shows the number of electors in each division before and after redistribution.

Legislative Council: Effect of Changed Boundaries on Number of Electors in Each Division

Division (a)		Before Redistribution	After Redistribution			
			30 Sept. 1968	30 June		
				1969	1970 (b)	1971
Buckingham	(H)	11,450	10,227	9,889	10,186	10,956
Cornwall	(L)	6,556	9,499	9,219	9,837	10,171
Derwent	(R)	13,370	6,078	6,029	6,814	6,775
Gordon	(S)	4,039	3,731	3,941	5,505	5,313
Hobart	(H)	4,565	10,091	9,919	13,104	13,312
Huon	(R)	9,141	7,776	7,661	7,675	7,973
Launceston	(L)	2,826	8,998	9,401	11,462	11,350
Macquarie	(R)	7,107	5,819	5,775	5,730	5,796
Meander	(R)	5,639	7,151	7,091	7,854	8,143
Mersey	(DU)	11,023	11,037	11,106	11,850	13,537
Monmouth	(R)	3,491	6,313	6,852	6,764	6,808
Newdegate	(H)	7,867	11,822	11,798	12,135	12,228
Pembroke	(H)	17,214	13,347	13,457	15,720	18,634
Queenborough	(H)	7,824	9,495	9,515	10,565	11,595
Russell	(R)	8,189	8,268	8,655	9,212	9,238
South Esk	(R)	9,517	7,263	7,298	8,497	8,557
Tamar	(R)	8,183	6,182	6,154	6,494	6,563
West Devon	(BP)	9,249	9,438	9,493	11,229	12,610
Westmorland	(L)	13,270	8,290	8,174	9,385	9,420
Total	.. .. .	160,520	160,825	161,427	180,018	188,979

(a) (H) = Hobart and suburban; (L) = Launceston and suburban; (BP) = Burnie and Penguin municipalities; (DU) = Parts of Devonport and Ulverstone municipalities; (R) = rural; (S) = special.
(b) Franchise widened 1 July 1969; figures not directly comparable.

The redistribution differentiated between the faster growing populations in urban electorates and the stationary or contracting populations in rural seats. Special provision was made for the isolated west coast seat of Gordon.

Although universal franchise replaced the former restricted franchise on 1 July 1969, the Electoral Department is progressively updating the roll, concentrating on the three or four electorates to be contested each year.

Qualifications of Electors and Members

Qualifications of an Elector

An elector for both the House of Assembly and the Legislative Council is any person, aged at least 21 years, male or female, who has lived in the State six months continuously, who is a natural-born or naturalised subject of the Queen and whose name is on the electoral roll for an electoral division. However, in June 1972 the House of Assembly passed a Bill which lowered the age of majority and hence the voting age for State elections to 18 years. Voting has been compulsory since the *Electoral Act* 1928. The special qualifications for electors of the Legislative Council were abolished on 1 July 1969 following amendments to the *Constitution Act* 1934 and the *Electoral Act* 1907.

In contrast with elections for Federal Parliament, there is no provision in the Tasmanian Electoral Act for voting by members of the overseas armed forces under the age of 21 years.

Qualifications of Members

House of Assembly: To be eligible for election as a member of the House of Assembly, a candidate must comply with the following conditions:

He must either be an elector or be qualified to be an elector for the House of Assembly and resident in Tasmania for five years at any one time or resident for two years immediately preceding the election.

Legislative Council: A candidate for the Legislative Council must be an elector or have the qualifications of an elector for the Council; in addition he must meet the residential restrictions imposed on candidates for the House of Assembly.

Persons of unsound mind or in prison under any conviction are barred from voting at elections for either House or from being elected to either House. No person shall be a member of both Houses at the one time.

By-Elections

House of Assembly

In the case of a vacancy occurring in the House of Assembly, there is provision for the Chief Electoral Officer to publicly invite nominations from candidates who were unsuccessful at the last general election in the constituency which elected the vacating member. If one nomination only is received, then the Chief Electoral Officer declares the consenting candidate elected and notifies the Governor to this effect.

If more than one such nomination is received, the Chief Electoral Officer is required to examine the voting papers counted for the vacating member at the last general election. In the simple case—where the vacating member obtained a surplus above the quota—this can be confined to voting papers expressing first choices. In the more difficult case—where the vacating member did not obtain a quota on first choices—it is necessary to take into account not only original first-choice papers but also all voting papers representing votes transferred to the vacating member.

The vacating member's voting papers, as defined above, are examined and all his votes are transferred to the consenting candidates according to the preferences expressed thereon. Second preferences derived from first choice votes of the vacating member have a transfer value of one, but from votes he obtained by transfer, only the value at which he obtained them. For the purpose of the count, first-choice votes received by the consenting candidates at the general election are not relevant—the selection is based on preferences as revealed by the voting papers of the vacating member.

When the number of votes in favour of each consenting candidate has been ascertained, the final selection is by the method of the absolute majority through the alternative vote.

If no nominations are received from candidates unsuccessful at the last general election, then an election is held to fill the vacancy.

Legislative Council

In the case of a vacancy occurring in the Legislative Council, a writ is issued directing that an election be held to fill the vacancy. There is no provision for a re-count of voting papers of the vacating member as in by-elections for the House of Assembly.

Members of Parliament

Legislative Council

The following shows members of the Legislative Council, the electoral division which they represent and the year in which each will retire from the Council.

Government and Administration
Members of the Legislative Council

Electoral Division	Member's Name	Year for Retirement
Buckingham	Lowrie, The Hon. Kenneth Francis	1974
Cornwall	King, The Hon. Frank Barnard	1978
Derwent	Dixon, The Hon. Joseph Henry (a)	1973
Gordon	Broadby, The Hon. Albert James	1976
Hobart	Benjamin, The Hon. Phyllis Jean, MBE (b)	1976
Huon	Hodgman, The Hon. William Michael	1978
Launceston	Shipp, The Hon. Raymond William	1976
Macquarie	Shaw, The Hon. George Arthur	1974
Meander	Coates, The Hon. Jeffrey Allan	1977
Mersey	Braid, The Hon. Henry William	1978
Monmouth	Bisdee, The Hon. Louis Fenn	1975
Newdegate	Miller, The Hon. Brian Kirkwall (b) (c)	1975
Pembroke	McKay, The Hon. Eric Charles	1977
Queenborough	Hodgman, The Hon. William Clark	1977
Russell	Fenton, The Hon. Charles Balfour Marcus (d)	1975
South Esk	Carins, The Hon. Lloyd Horton, O.B.E.	1974
Tamar	Hitchcock, The Hon. Daniel	1973
West Devon	Young, The Hon. William Thompson	1977
Westmorland	Gregory, The Hon. Oliver Harold	1973

(a) Chairman of Committees.

(b) Endorsed by the Australian Labor Party; other members are independents.

(c) Leader for the Government in the Legislative Council; Minister for Tourism.

(d) President.

House of Assembly

The following shows members of the House of Assembly elected on 22 April 1972 and their party allegiance:

Members of the House of Assembly (from 22 April 1972)

Electoral Division	Member's Name	Party Affiliation
Bass	Barnard, The Hon. Michael Thomas Claude	A.L.P.
	Beattie, Eric William	Liberal
	Bushby, Maxwell Holmes	Liberal
	Farquhar, Hedley David	A.L.P.
	Foster, The Hon. Allan John	A.L.P.
	Le Fevre, Vernon Mackenzie	A.L.P.
	Pitt, Neil Henry	Liberal
Braddon	Barker, Wilfrid George	Liberal
	Bonney, Raymond Claude	Liberal
	Chisholm, Geoffrey Donald (a)	A.L.P.
	Costello, The Hon. Lloyd Edwin Albert	A.L.P.
	Davies, Ronald Glen	A.L.P.
	Reece, The Hon. Eric Elliott (b)	A.L.P.
	Ward, Sydney Victor	A.L.P.
Denison	Austin, Kenneth Ernest	A.L.P.
	Baker, Robert Wilfred	Liberal
	Batt, The Hon. Neil Leonard Charles	A.L.P.
	Bingham, The Hon. Eardley Max (c)	Liberal
	Corby, Kevin Patrick	A.L.P.
	Everett, The Hon. Mervyn George, QC (d)	A.L.P.
	Mather, Robert	Liberal

Members of the House of Assembly (from 22 April 1972)—*continued*

Electoral Division	Member's Name	Party Affiliation
Franklin	Barnard, The Hon. Eric Walter (e)	A.L.P.
	Beattie, John Maxwell	Liberal
	Clark, Douglas Frank	Liberal
	Frost, Stewart Charles Hilton	A.L.P.
	Lowe, The Hon. Douglas Ackley	A.L.P.
	Neilson, The Hon. William Arthur	A.L.P.
	Pearsall, Geoffrey Allan	Liberal
Wilmot	Baldock, Darrel John	A.L.P.
	Bessell, Leonard Hubert	Liberal
	Bethune, Walter Angus	Liberal
	Fagan, The Hon. Roy Frederick	A.L.P.
	Ingamells, Christopher Robert	Liberal
	Lohrey, Andrew Barnard	A.L.P.
	Polley, Michael Robert	A.L.P.

(a) Chairman of Committees.

(b) Premier.

(c) Leader of the Opposition.

(d) Deputy Premier.

(e) Speaker.

Failure of the Liberal-Centre Party Coalition Government

Several months of speculation about the future of the Liberal-Centre Party Coalition Government came to a head on 13 March 1972 when the Centre Party executive made a public announcement that it had requested its sole Parliamentary representative, Mr K. O. Lyons, who held the balance of power in the Parliament, to use '... whatever method or methods he finds necessary to have the Premier (Mr Bethune) removed as leader of the Government'. Mr Lyons' reaction to this directive was to announce his resignation from the Ministry and from the coalition Government. The same afternoon Mr Bethune, whose position as Leader of the Liberal Party had been confirmed by the Parliamentary Party members, visited the Governor and requested that a dissolution of the House of Assembly be granted. The Governor informed the Premier that he would give his decision on the dissolution question the next day.

That evening (14 March) the next stage in the political drama occurred at the House of Assembly meeting. Mr Lyons, the former Deputy Premier, again occupied the cross-benches, his station in the House from September 1966 to early 1969. After certain preliminary business had been dealt with Mr Lyons read to the House a statement outlining his reasons for resigning from the Government. The Premier replied and requested an adjournment. Before agreeing to the adjournment Mr Reece, Leader of the Opposition, sought assurance that the Premier had in fact requested the Governor to grant a dissolution of the House. Mr Bethune gave this assurance and the adjournment was agreed to. Thus ended the two years and 10 months life of the Liberal-Centre Party Coalition Government.

The next day, the Governor issued a proclamation formally dissolving the House of Assembly. However, contrary to normal practice a proclamation proroguing Parliament was not issued. The Legislative Council, in accordance with its own resolution, continued to meet to deal with important legislation (including a Bill authorising the spending of Commonwealth employment stimulation grant funds). Approximately three weeks after dissolution of the House of Assembly, Parliament was prorogued by proclamation on 5 April.

During the interim period, between dissolution of the House of Assembly and the State election of 22 April, a further political shock occurred when Dr Abbott, Minister for Health and Road Safety, announced his resignation from the Liberal Party.

The final act was the State election of 22 April. Mr Lyons, who by his resignation, had precipitated the Government's downfall did not seek re-election. Dr Abbott stood as an Independent Liberal but lost his seat. The Liberal Party, which had refused to accede to Centre Party demands, was defeated and Labor was returned to power.

House of Assembly Elections, 22 April 1972

The Election on 22 April 1972 resulted in a clear-cut victory for the Labor Party which was returned to power with a seven-seat majority, the largest obtained by a Tasmanian Government since 1941 when Labor held 20 seats in the 30-member House of Assembly.

Salaries of Members of Parliament

Parliamentary Salaries Tribunal

In 1962, the Tasmanian Parliament established a new principle by passing an Act for the setting up of a parliamentary salaries tribunal; this Act set up a committee with members drawn from outside the Parliament but its findings, instead of being recommendations, are determinations binding on the Crown. In effect, the Tasmanian Parliament has adopted the principle of wage and salary fixation by independent tribunal.

The Tribunal's latest decision, operative from 1 October 1970, varied basic salaries and allowances. Interstate travelling allowances were fixed at a daily rate of \$12 for Ministers and \$14 for the Premier. Intrastate (daily) rates are: Premier \$22; Ministers \$20. The back-benchers' accommodation allowance, payable to members who are absent from home when the Houses are sitting, was set at \$12 a day.

Details of the salaries and allowances as determined by the Parliamentary Salaries Tribunal in its last three decisions are shown in the tables that follow:

Determination of the Parliamentary Salaries Tribunal, 1964, 1967 and 1970
(\$)

Particulars	Rate Per Annum from 1 October		
	1964	1967	1970
BASIC SALARY OF MEMBERS			
Member, Legislative Council	4,600	6,000	7,200
Member, House of Assembly	4,600	6,000	7,200
SPECIAL RATES (GROSS) (a)			
Cabinet—			
Premier (b)	10,000	13,300	16,000
Deputy-Premier	8,200	11,300	13,400
'Senior' Ministers	7,600	10,200	12,200
'Junior' Ministers	7,600		
Legislative Council—			
President	6,200	8,060	9,600
Chairman of Committees	5,400	7,300	8,600
Leader for the Government	7,000	9,100	10,300
Deputy Leader	5,250	6,800	8,000
House of Assembly—			
Speaker	6,200	8,060	9,600
Leader of Opposition	(c) 7,400	(c) 9,950	(d) 11,700
Deputy Leader	5,400	7,020	8,400
Chairman of Committees	5,400	7,300	8,600

(a) All rates include the basic salary received by the office-holder as a member.

(b) Excludes entertainment allowance of \$700 (1964) and \$900 (1967 and 1970).

(c) Excludes travelling allowance of \$500 (1964); and \$650 (1967).

(d) In addition travelling allowance, on the same basis as for Ministers, is payable.

The 1964 determination removed the salary distinction between 'senior' Ministers and 'junior' Ministers; the tribunal found that the distinction rested solely on historical grounds. In 1967, home telephone rentals were paid for members for the first time. This practice was continued in the 1970 determination.

Electorate Allowances: Parliamentary Salaries Tribunal, 1964, 1967 and 1970
(£)

Electorate	Rate Per Annum from 1 October		
	1964	1967 (a)	1970 (a)
Legislative Council—			
(i) Buckingham	600	700	750
Hobart		600	650
Newdegate		600	650
Queenborough		600	650
(ii) Cornwall	750	600	700
Launceston		600	700
Westmorland		800	800
(iii) Derwent	900	1,100	1,075
Huon		1,000	1,075
Mersey		900	975
Tamar		1,000	1,075
West Devon		900	975
(iv) Gordon	1,000	1,000	1,475
Macquarie		1,100	1,175
Monmouth		1,000	1,375
Pembroke		1,400	750
(v) Meander	1,100	1,200	1,275
Russell		1,400	1,475
South Esk		1,400	1,475
House of Assembly—			
Denison	1,100	1,100	1,100
Franklin	1,450	1,650	1,500
Bass	1,500	1,700	1,850
Braddon	1,700	1,900	2,100
Wilmot	1,850	2,100	2,500

(a) Ministers and Leader of Opposition receive only 75 per cent.

The electorate allowances are designed to cover a member's expenses associated with the performance of parliamentary duties within his or her electoral division. When determining the appropriate electoral allowance the Parliamentary Salaries Tribunal considers such expense items as: (i) travel involved in covering the electorate; (ii) entertainment expenses associated with parliamentary duties; (iii) accommodation expenses related to performance of parliamentary duties within the electorate; (iv) postal and telephone charges (other than telephone rentals); and (v) costs of informing electors of special meetings. The Tribunal also takes account of the effect that alteration of electoral boundaries has on the cost of performing parliamentary duties within the electorate (e.g. a reduction in the size of the electorate will likely reduce travel costs). The major expense item faced, in most electorates, by members of Parliament is the cost of travel by motor vehicle.

The Present System of Government

The system of responsible government in Tasmania requires that the executive power of the State shall be exercised by the Cabinet; in exercising this power, the Ministers of the Cabinet are held responsible for the actions and administration of government departments and other governmental authorities which have been created for three basic purposes: (i) to put into practice the laws made by the Parliament; (ii) to give effect to the decisions of the Ministry; and (iii) to advise the Ministry on matters of policy.

The next section lists the departments and authorities currently under the various Ministers but the allocation of responsibility is subject to change and Cabinet has the power to vary it at any time. A detailed account of the work of the various departments and authorities appeared in the first two issues of the Year Book series.

Premier, Treasurer and Minister for Mines

Premier's and Chief Secretary's Dept
Mines Dept
Treasury Dept

Government House
Agent-General's Office

Deputy-Premier, Attorney-General, Minister for Environment and Racing and Gaming

Attorney-General's Dept
Solicitor-General's Dept
Supreme Court and Sheriff's Dept
Magistracy Dept and Court of Requests
Parliamentary Counsel's Dept

Public Trust Office
Registrar-General's Dept
Prisons Dept
Racing Commission
Environmental Control

Minister for Education

Education Dept

Minister for Lands and Works and Local Government

Dept of Public Works
Dept of Lands
Rivers and Water Supply Commission
Metropolitan Water Board

Dept of Film Production
Town and Country Planning Commission
Local Government Office

Chief Secretary and Minister for Transport

Premier's and Chief Secretary's Dept
Audit Dept
Public Service Commissioner's Dept
Electoral Dept
Dept of Labour and Industry
Public Service Tribunal Dept
Tasmanian Grain Elevators Board

State Library
Fire Brigades Commission
Rural Fires Board
Miners Pension Board
Transport Commission
Metropolitan Transport Trust

Minister for Agriculture and Fisheries

Dept of Agriculture
Inland Fisheries Commission
Sea Fisheries Division

Agricultural Bank of Tasmania (Land Settlement Function)
National Parks and Wildlife Service

Minister for Health, Social Welfare and Road Safety

Dept of Health Services
Mental Health Services Commission

Social Welfare Dept
Road Safety

Minister for Industrial Development, Forests and Minister in Charge of the Hydro-Electric Commission

Directorate of Industrial Development
Forestry Commission
Supply and Tender Department

Government Printing Office
Hydro-Electric Commission
Government Insurance Office

Minister for Housing

Housing Dept

Minister for Tourism, Police and Licensing

Dept of Tourism and Immigration
Police Dept

Licensing Court

ACTS OF STATE PARLIAMENT

Summary of Recent Acts

The examples below illustrate the interpretation of the notations used in the following list of Acts:

- (A 1952)—An Act to amend an Act of the same title passed in 1952.
 (A Audit Act 1952)—An Act to amend an Act of this title passed in 1952.
 (R 1952)—An Act to repeal an Act of the same title passed in 1952.
 (R Audit Act 1952)—An Act to repeal an Act of this title passed in 1952.
 (P 1952)—An Act to be incorporated and to be read as one with the Principal Act passed in 1952.
 (P Audit Act 1952)—An Act to be incorporated and to be read as one with the Principal Act of this title passed in 1952.
 (RS 1952)—An Act to repeal an Act of the same title passed in 1952 and to substitute new legislation.
 (RS Audit Act 1952)—An Act to repeal an Act of this title passed in 1952 and to substitute new legislation.

State Acts, 1970

Number	Short Title and Summary
1	Public Holiday (Royal Visit)—granting of public holiday for the Royal visit.
2	Anzac Day Observance (A 1929; A Sunday Observance Act 1968)—miscellaneous amendments including sports, etc.
3	Racing and Gaming (A1952)—amend provisions for totalisator tax and licences for Anzac Day meetings.
4	Egg Marketing (A1957)—miscellaneous amendments; constitution of Board.
5	Queenstown Cemetery—improvement of Queenstown Cemetery.
6	Dairy Produce (A1932)—amend qualifications for employment.
7	Mowbray Memorial Swimming Pool Loan Committee—guarantee repayment of loan.
8	Primary Producers' Relief—provide financial assistance to orchardists.
9	Companies (Death Duties) (A1969)—amend duty payable on death of a holder of securities of a company.
10	Potato Marketing Board (A1952)—qualifications for election and voting at elections.
11	Public Service (A1923)—appointment of a Commissioner.
12	Audit (A1918)—increase salary of Auditor-General.
13	Charitable Institutions (Repeal) (RS 1888)—provide for the continuation of institutions registered under the 1888 Act.
14	Plumbers' Registration (A1951)—qualifications for registration of plumbers.
15	Transport (A1938)—miscellaneous amendments.
16	Inflammable Liquids (A1929)—amendments to regulations.
17	Trustee (Insured Housing Loans) (P1898; R Housing Loans (Powers of Trustee) Act 1966)—authorise investment of trust funds in certain insured housing loans.
18	Loan Fund Appropriation (No. 2) 1969-70—authorise the issue and application of moneys from the Loan Fund.
19	Agent-General (A1911)—increase salary of Agent-General.
20	Daylight Saving (A1968)—provide for continuation of daylight saving on permanent basis.
21	Consolidated Revenue Fund Supply 1970-71—issue and appropriation of funds.
22	Weights and Measures (A1934)—miscellaneous amendments including package markings and approval of brands.
23	Judges' Pensions (A1951)—increase pension rates of Supreme Court Judges and widows.
24	Loan Fund Supply 1970-71—issue and appropriation of Loan Funds.
25	Trustee Companies (A1953)—miscellaneous amendments.
26	Consumers Protection—establish a Consumer Protection Council.
27	Education (A1932)—loans and subsidies.
28	Marine (A1921)—application of revenues.
29	Wrest Point Reclamation—reclamation of land from the sea for Wrest Point Casino.
30	Land Valuation (A1950)—amend title of chief valuer from 'Under Treasurer' to 'Secretary for Lands'.
31	Stanley Cool Stores (A1945)—miscellaneous amendments; powers and functions of the board.

State Acts, 1970—*continued*

Number	Short Title and Summary
32	Tourism Development—improve provisions for tourism; various Acts repealed.
33	Australian and New Zealand Banking Group—facilitate merger of the English, Scottish and Australian Bank and the Australian and New Zealand Bank.
34	Consolidated Revenue Fund Appropriation 1970-71—issue and appropriation of funds.
35	Loan Fund Appropriation 1970-71—appropriation of funds and borrowing powers.
36	Wages Board (A1920)—miscellaneous amendments; constitution of boards.
37	Public Health (A1962; A Fisheries Act 1959)—prevention of pollution.
38	Land Tax (P Land and Income Tax Act 1910)—amend rates of land tax.
39	Consolidated Revenue Fund Supplementary Appropriation 1969-70—appropriation of Funds.
40	Fire Damage Relief (A1967)—provision for the erection of houses in certain cases; special powers of Minister in relation to housing.
41	Crown Lands (Miscellaneous Provisions) (P1935)—miscellaneous provisions.
42	Fire Brigades (A1945)—miscellaneous amendments; duties and powers of commission and long service leave.
43	Railway Management (A1935)—amend powers of Commission as to carriage of goods by road.
44	Crown Servants' Reinstatement—provide for reinstatement of former Crown servants.
45	Public Servants' Retiring and Death Allowances (A1925)—amendments relating to broken service.
46	Superannuation (A1938)—re-employment under Crown Servants' Reinstatement Act 1970.
47	National Parks and Wildlife (R Scenery Preservation Act 1915; R Animals and Birds Protection Act 1928)—provision for the establishment and management of national parks and other reserves.
48	Police Offences (A1935)—committal of offenders to institutions.
49	Royal Tasmanian Society for the Blind and Deaf (A1963)—allow the acquisition of land and house or land and the erection of a house by the Board for any member of the Board.
50	Stamp Duties (Receipts) (P1931)—suspend provisions relating to duty payable on receipts.
51	Audit (No. 2) (A1918)—repeal of section of original Act.
52	Public Service (No. 2) (A1923)—salaries of officers.
53	State Employees (Long Service Leave) (A1950)—provisions relating to employees transferring from other authorities, right of an employee to elect retirement in certain cases.
54	Public Accounts Committee—provide for the establishment of a parliamentary standing committee on public accounts.
55	Tamar Yacht Club Loan Guarantee—guarantee repayment of loan.
56	Pea Industry Subsidy Agreement—ratify and approve agreements relating to the payment of subsidies.
57	Testator's Family Maintenance (A1912)—miscellaneous amendments.
58	Timber Promotion—allow establishment of a Tasmanian Timber Promotion Board for the promotion of timber, provision of funds.
59	Architects (A1929)—amend qualifications for, and certificates of, registration, prohibited practices, other miscellaneous amendments.
60	Local Government (A1962)—miscellaneous amendments.
61	Metropolitan Water (A1961)—power to borrow money from the public, temporary investment.
62	Traffic (A1925)—drivers' licence fee increase.
63	Water (A1957)—miscellaneous amendments.
64	Marine (No. 2) (A1921)—miscellaneous amendments.
65	Public Works Committee (A1914)—miscellaneous amendments.
66	Trustee (A1898)—authorised investments.
67	Hydro-Electric Commission (Power Development) (A1967)—expenses of construction of works, various other amendments.
68	Police Association Loan Guarantee—guarantee repayment of loan.
69	Department of Lands and Surveys—re-organisation of the Department.
70	Urban Farming Land Taxation—relief from land tax inflated by development potential.
71	Renison Limited (Zeehan Lands)—sale of Crown Land to Renison Ltd.
72	Legal Practitioners (A1959)—miscellaneous amendments.
73	Superannuation (No. 2) (A1938; A1968)—miscellaneous amendments.
74	Workers' Compensation (A1927)—liability of employers, settlement of claims, various amendments.
75	Apprentices (A1942)—amend constitution and proceedings of the Commission.
76	Retirement Benefits—benefits payable to State or State authority employees on retirement, benefits payable to families of employees.
77	Road Safety (Alcohol and Drugs) (A Evidence Act 1910; A Traffic Act 1925)—restrictions on drivers after consuming intoxicating liquor or drugs.
78	Beauty Point Landslip—provision for acquisition and clearance of certain land at Beauty Point.
79	Prison (A1868)—appointment of Controller of Prisons and other prison officers, functions, various other amendments.
80	Constitution (A1934)—alteration of House of Assembly quorum; miscellaneous amendments.
81	Hydro-Electric Commission (Mersey-Forth Power Development) (A1963)—expenses of construction work.

State Acts, 1971

Number	Short Title and Summary
1	Goods (Trade Descriptions)—prohibit the application of false trade descriptions to goods.
2	Dangerous Drugs (A1959; A Police Offences Act 1935)—prohibition of growing of certain plants and possession and sale of drugs.
3	Hire-Purchase (A1959)—provisions relating to the insurance of goods on hire-purchase.
4	Marginal Dairy Farms Reconstruction—agreement between the Commonwealth and State for a Marginal Dairy Farms Reconstruction Scheme.
5	Explosives (A1916)—delineation of places where explosives may be made and kept.
6	Supreme Court Civil Procedure (A1932)—power of judges to make rules of court.
7	Motor Vehicles Tax (A1917)—alteration to the rate of motor vehicle tax.
8	Public Services (A1923)—amend the salary and allowances of the Commissioner of the Public Service.
9	Audit (A1918)—amend the salary of the Auditor-General.
10	Racing and Gaming Act (A1952)—prohibition of and penalties imposed on: unlawful betting houses, betting with minors, betting in public places. Stamp duty on betting tickets, etc.
11	Closer Settlement (R1957)—Director of Land Settlement.
12	State Advances (A1935; A1962)—advances to farmers and other primary producers. Additional borrowing by the Treasurer for purposes of Principal Act.
13	Hydro-Electric Commission (Pieman River Power Development) (P Hydro-Electric Commission Act 1914)—authority for and expenses of construction of works.
14	Waterworks (A1952)—provision for installation of fire-fighting mains in buildings.
15	Metropolitan Transport (A1954)—payment of pensions to workers of the M.T.T.
16	Pensioners (Heating Allowance)—granting of an allowance to certain classes of pensioners.
17	War Service Land Settlement (A1950)—advances to settlers.
18	Milk Board Superannuation Scheme—authorise certain payments by the Milk Board of Tasmania to the Trustee of its superannuation fund.
19	Loan Fund Supply 1971-1972—issue and appropriation of Loan Fund.
20	Circular Head Marine Board Loan (A1950)—amendment of the sum of money to be borrowed.
21	King Island Port Facilities Agreement—approve the construction, maintenance and use of port facilities at Little Grassy Bay, King Island.
22	Public Bodies Assistance (A Local Government Act 1962; A Elderly Citizens' Clubs and Youth Centres Act 1966)—giving financial assistance to municipalities and certain other public bodies to use on activities of value to the community.
23	Defacement of Property (A1898)—miscellaneous amendments.
24	Pulpwood Products Industry (Eastern and Central Tasmania) (A1968)—compensation of Crown Lessees.
25	State Employees (Long-Service Leave) (A1950)—right of employees to elect to retire in certain cases.
26	Electoral (A1907)—miscellaneous amendments.
27	Primary Producers' Relief—financial assistance to orchardists who suffered loss as a result of hail.
28	Appropriation (Cattle Compensation)—compensation for destruction of farmer's cattle.
29	Consolidated Revenue Fund Appropriation (No. 2) 1970-1971—issue and appropriation of funds.
30	Consolidated Revenue Fund Supply 1971-1972—issue and appropriation of funds.
31	Constitution (A1934)—miscellaneous amendments.
32	Marketable Securities (R1967)—provision for instruments of transfer of certain marketable securities.
33	Ambulance (A1959)—amend charges for conveyance.
34	Apple and Pear Crop Insurance (A1967)—miscellaneous amendments.
35	Tasmanian Government Insurance (A1919)—miscellaneous amendments.
36	Advanced Education (A1968)—general functions, diplomas, regulations, etc.
37	Queen Victoria Hospital (A Queen Victoria Maternity Hospital Act 1952)—miscellaneous amendments.
38	King Island Marine Board Loan (P Marine Act 1921)—authorisation to borrow money to meet the construction of certain works.
39	Housing Agreement (P1956)—borrowing and application of money for housing.
40	Loan Fund Supply (No. 2) 1971-1972—issue and appropriation of Loan Fund.
41	Consolidated Revenue Fund Supply (No. 2) 1971-1972—apply a sum for the service of the year ending 30 June 1972.
42	Consolidated Revenue Fund Appropriation 1971-1972—issue and appropriation of funds.
43	Pay Roll Tax—levy of State pay roll tax upon employers in respect of certain wages.
44	Loan Fund Appropriation 1971-72—issue and appropriation of Loan Fund.
45	Land Tax (A Land and Income Tax 1910)—impose a land tax.
46	Stamp Duties (A1931)—miscellaneous amendments.
47	Hydro-Electric Commission (Contributions) (A Hydro-Electric Commission Act 1944)—requiring the H.E.C. to make contributions in aid of the Consolidated Revenue Fund.
48	Launceston Public Hospitals Board—make temporary provision to the constitution and powers of the Board.
49	Rural Reconstruction—give effect to a scheme for the assistance to persons engaged in rural industries.
50	Traffic (A1925)—miscellaneous amendments.

State Acts, 1971—continued

Number	Short Title and Summary
51	Presbyterian Church of Australia—miscellaneous amendments.
52	Apprentices (A1942)—minor amendments.
53	Police Offences (A1935)—minor amendment.
54	Snowy Mountains Engineering Corporation (Tasmania)—function and powers of the Corporation in this State.
55	Adult Education (A1948)—miscellaneous amendments.
56	Education (A1932)—miscellaneous amendments.
57	Libraries (A1943)—regulations.
58	Industrial Housing Guarantees—guaranteeing loans to carry out schemes of housing and urban facilities for persons employed in industrial undertakings.
59	Land Valuation—to consolidate and amend the law relating to the valuation of land.
60	Justices (A1959)—appointment of clerks, etc. of petty sessions; miscellaneous amendments.
61	Statutory Salaries—salaries to be paid to holders of certain offices.
62	Mines Inspection (A1968)—employment in mines; miscellaneous amendments.
63	Loan Fund Appropriation (No. 2) 1971-1972—issue and appropriation of Loan Fund.
64	Long-Service Leave (Casual Employment)—provide long-service leave payments for certain classes of casual employment.
65	Alcohol and Drug Dependency (A1968)—treatment centres.
66	Local Government (A1962)—miscellaneous amendments.
67	Port of Hobart Reclamation (A1954)—substitution of an amended schedule.
68	Solicitors Renumeration (A1883)—miscellaneous amendments.
69	Civil Aviation (Carrier's Liability) (P1963)—miscellaneous amendments.
70	St Vincent's Hospital Loan Guarantee—repayment of a sum of money proposed to be lent by the Commonwealth Trading Bank to the Trustees of the Sisters of Charity of Australia.
71	Daylight Saving (A1968)—amendment to the period of daylight saving.
72	Consumers Protection (A1970)—area, exercise and reports of the Council.
73	Farmers Debt Adjustment (A1936)—additional purposes for which money may be obtained.
74	Dangerous Drugs (No. 2) (A1959)—sale of drugs, regulations.
75	Bell Bay Railway Agreement—agreement between the Commonwealth and State in respect of financial assistance towards the cost of the construction of the Bell Bay Railway.
76	Hydro-Electric Commission (Capital Expenditure) (A Hydro-Electric Commission (Mersey-Forth Power Development) Act 1963; A Hydro-Electric Commission (Miena Dam) Act 1964)—miscellaneous amendments.
77	National Parks and Wildlife (A1970)—transference of officers.
78	Public Service Tribunal (No. 2) (A1958)—awards: effects and proceedings.
79	Lending of Money (A1915)—special provision as to certain loans to corporations.
80	Land and Income Taxation (A1910)—miscellaneous amendments.
81	Poisons—establishment of Poisons Advisory Committee, prohibition of importation, making, refining, preparation, sale, supply, use, etc. of certain substances and plants.
82	Probation of Offenders (A1934)—miscellaneous amendments.
83	Marine Search and Rescue—provide for carrying out of certain marine search and rescue operations.
84	Crown Lands (Miscellaneous Provisions)—miscellaneous provisions.
85	Roads and Jetties (A1935)—minor amendment.
86	Hobart Corporation (A1963)—Salamanca Place Market.
87	Consolidated Revenue Fund Supplementary Appropriation 1970-1971—issue and appropriation of funds.
88	Home Builders' Account—provision of finance to assist persons to erect or purchase homes.
89	Radiographers Registration—registration of radiographers and the regulation of the practice of radiography.
90	Films—the classification and registration of films.
91	Public Service Tribunal (A1958)—minor amendment.
92	Police Regulation (A1898; A1963)—miscellaneous amendments.
93	Factories, Shops, and Offices (A1965)—amendments to rostered opening hours for service stations.
94	Traffic (No. 2) (A1925)—miscellaneous amendments.
95	Stock (A1932)—miscellaneous amendments.
96	Pharmacy (A1908)—miscellaneous amendments.
97	Child Welfare (A1960)—public performances involving danger.
98	Urban Farming Land Taxation (A1970)—valuation as urban farming land, partial loss of rebate or refund.
99	Dairy Produce (R1969)—expiry of the Act.
100	State Employees (Long-Service Leave) (A1950)—provisions applicable to employees transferred from other States.
101	Retirement Benefits (A1970)—conversion of certain pensions.
102	Legal Practitioners (A1959)—miscellaneous amendments.
103	Local Government (No. 2) (A1962)—miscellaneous amendments.
104	Straits Islands Shipping Services Subsidies (A1948)—power of Minister to enter into agreements with shipowners to pay subsidies.



Wybalenna (Flinders Island), general view of archaeological dig [Miss J. Birmingham]

Wybalenna, excavation of aboriginal's cottage

[Miss J. Birmingham]





King penguins on a rocky beach, McMurdo Island.

[Dept. of Supply]

TOURISM DEVELOPMENT ACT 1970

Introduction

The *Tourism Development Act* 1970 came into force on 18 January 1971 establishing a five-man Tourism Development Authority. Under the Act the Authority became responsible for administering the reconstituted Department of Tourism and Immigration.

The Director-General, as Executive of the Authority, is responsible for the operations and activities formerly carried out in Tasmania under the *Tourist Bureau Act* 1934, as amended; under the *Guest Houses Registration Acts* 1937 and 1962; and the *Tourist Accommodation Loans Acts* 1945 and 1964.

The *Tourism Development Act* 1970 retains the functions defined under the provisions of the *Tourist and Immigration Department Act* 1934. The renamed department (Department of Tourism and Immigration) is to continue its activities of: (i) acting as a travel agent; (ii) arranging tours, sight-seeing, etc.; (iii) development of tourist attractions; and (iv) promoting immigration to Tasmania, but is now under the policy control of the Tourism Development Authority.

In addition, the Act establishes various tourism advisory committees and contains provision for the making of loans, guarantees or grants for the construction of accommodation, transport or other facilities for tourists.

Tourism Development Authority

Administration

The Tourism Development Authority is the administrative body in charge of the Tourism and Immigration Department and is responsible to the Minister for Tourism for the policy, management and control of the Department. The Director-General of Tourism is both the head of the department and the chairman of the Authority. Private enterprise is represented on the Authority by two persons appointed by the Governor for three-year terms. The Governor also appoints a government representative to the Authority. The fifth member is the Director of the Department of Tourism and Immigration.

The Authority meets as required by the Director-General although a member has the right, with the approval of the Minister, to request a meeting.

Advisory Committees

The Authority has established a number of advisory committees, the most important being listed below:

Department of Tourism: This committee is to assist the Director in the development of the activities of the department.

Finance: Established to take over the functions of the *Tourist Accommodation Loans Act* 1945, the committee's financial powers are now those under the *Tourism Development Act* 1970 (basically a restatement of powers held under the earlier Act with additional powers in respect of transport and other facilities for travellers and allowing for grants and guarantees).

Research: A research committee has been established to develop data collection and to undertake market research into tourism.

Co-ordination of Private Enterprise: The committee has been set up to co-ordinate the activities of the Tasmanian Tourist Council, a private enterprise organisation, with those of the Authority.

Other Committees: Specialist area committees have been established to foster the development of Port Arthur and the State's National Parks; to promote the Hobart Casino; to sponsor cultural affairs; to investigate developmental projects; and to ensure collaboration between business, industry and government agencies.

Other Activities of the Department

Caves: The department is responsible for the control and operation of the Marakoopa and King Solomon Caves at Mole Creek and the Newdegate Cave and thermal pool at Hastings. A fourth cave, Gunns Plains, is open to the public for inspection. This cave is leased to a private operator.

Immigration: British migration is fostered by the Assisted Passage Scheme which commenced in 1947. The department also operates two other assisted passage schemes: (i) the Tasmanian Government 200 scheme aimed at recruiting skilled immigrants; and (ii) the Tasmanian Government 400 scheme which assists semi-skilled immigrants.

NATIONAL PARKS AND WILDLIFE SERVICE

Introduction

The *National Parks and Wildlife Act* 1970 repealed the *Animals and Birds Protection Act* and the *Scenery Preservation Act* and placed the management and control of parks, reserves, fauna and flora in the hands of a single authority, the National Parks and Wildlife Service. A director, appointed by the Governor and responsible to the Minister for Agriculture, heads the new authority which has wide ranging powers covering the management of parks, protection of fauna and flora, regulation of hunting and enforcement of regulations under the Act.

As head of the National Parks and Wildlife Service, the director is responsible for: (i) the review and setting aside of land for conservation purposes; (ii) research activities connected with fauna and flora conservation; (iii) education of the public in matters of conservation; (iv) dissemination of conservation information about fauna and flora; (v) provision of relevant information to advisory committees; (vi) preparation and review of management plans for reserved areas; and (vii) enforcing national park and wildlife regulations. The director must submit annually a report, covering the Service's activities for the year, to the Minister for presentation to Parliament.

Functions

Conservation of Fauna and Flora

Conservation and protection of the State's fauna and flora reserves are the Service's principal functions. To carry out these functions it has the power to determine hunting seasons, bag limits, allowable methods of capture and licensing conditions. The regulations, in addition to controlling hunting, cover the capture of wildlife for sale, export or retention (e.g. in private zoos or aviaries). The Service may declare certain types of fauna or flora protected, in which case taking or destruction anywhere in the State is an offence. (Normally wildlife and flora within State or private reserves are wholly protected.) To assist with the protection of the State's fauna resources the import of certain animals (e.g. dingo, fox, wolf, mink and ferret) is prohibited. Any person who contravenes this regulation is liable to a fine of \$500 for each animal imported. The Service also has the power to ban domestic animals, such as dogs and cats, from State reserves.

Permits may be granted for taking protected flora or fauna; however, if the area is: (i) a State reserve, approval of the Minister for Agriculture must be obtained; (ii) a private reserve, consent of the owner must be given; (iii) a conservation or reserved area managed by a conservation society or public authority, consent of the managing body must be obtained.

Enforcement and Regulations

Penalties have been prescribed in the Act to ensure compliance with fauna, flora, etc. regulations. The maximum penalty which may be imposed is a \$500 fine. The enforcement of the regulations is the responsibility of the Director and he can call on the assistance of rangers or the police for this task. If an authorised person (ranger or police officer) suspects a person

of committing an offence he may require the person to give his name and address. Failure to comply with the request constitutes an offence. Rangers and police officers, if they discover a person contravening flora or fauna regulations, may evict the offender from the area. Where reasonable suspicion exists concerning committal of an offence the rangers or police have the power to: (i) seize any fauna or flora in the person's possession; (ii) seize any hunting equipment used in connection with the offence; and (iii) search the suspect's means of conveyance or residence. The rangers or police have the right to demand that any hunter, pursuing game for which a licence is required, produce his licence for inspection.

Management of Reserves

Normally the Director of the Service is responsible for the management of reserves; however, a conservation society or public authority may be appointed to manage local or private reserves. The managing authority is responsible for maintenance of the reserve and erection of buildings, cairns, fences and other facilities considered necessary. If a management plan has been prepared for the reserve then the managing body is responsible for ensuring that the provisions of the plan are carried out. The managing authority is also responsible for enforcing compliance with any regulations applying to the reserved area. Regulations cover: (i) flora and fauna protection; (ii) property damage; (iii) entry of conveyances (whether vehicular or animal drawn) to the reserve; (iv) conduct of persons within the reserve; (v) exclusion and eviction of persons from the reserve; and (vi) charging and collection of admission fees.

Management Plans: The management plan for a reserved area may cover: (i) development of the area; (ii) usage; (iii) powers of the managing authority in respect of the reserve; and (iv) restrictions on the right of general access to any part of the reserve. Before a management plan is submitted to the Governor for approval it must be handed to the Advisory Council for examination. The Council is required to publish, in at least three newspapers circulating within Tasmania, a notice: (i) stating the intention to submit to the Governor for approval a management plan in respect of a particular area of land; (ii) specifying where copies of the plan may be inspected or obtained; and (iii) stating that representations may be made to the Minister before a specified date which must not be earlier than 30 days after publication of the notice. The Minister is required to consider any representations and he may then submit the plan, with or without amendment, to the Governor for approval. Once approved the plan becomes binding upon the reserve managing authority.

Reservation and Acquisition of Land

The Act allows the setting aside of land for one of the following purposes: (i) management as a national park or recreation area; (ii) preservation and protection of fauna or flora; (iii) to preserve and protect areas of natural beauty or of scenic interest; (iv) preservation and protection of buildings or features which are of historic, archaeological, scientific or architectural interest; (v) preservation and protection of any Aboriginal relics; and (vi) any purpose that in the Governor's opinion, would add to the information about or promote the conservation of the State's fauna or flora. Areas of Crown land may be set aside as reserves by proclamation from the Governor. However, if the land is privately owned, consent of the owner must be obtained prior to issue of the proclamation. Land may be purchased for conservation purposes in which case it is designated as a conservation area. Such areas may be declared State reserves by proclamation.

The Advisory Council

Provision for an advisory council, comprising not more than 12 persons appointed by the Governor, is contained in the Act. The council comprises members representing the following interests: farming; the forestry and timber industry; the mining industry; tourism; land utilisation planning authorities; botany; zoology; geology; State history or anthropology; outdoor recreational pursuits; hunting and shooting. The council's duty is to advise the Minister on various aspects of fauna and flora conservation and it may make recommendations on these matters to the Minister. Section 11 of the Act empowers the Governor to remove any member of the Council from office who:

- (a) has become, in the opinion of the Governor, permanently incapable of carrying out the duties of his office;
- (b) has misconducted himself in the performance of the duties of his office;
- (c) has, by reason of a change of occupation or otherwise, ceased to be a person suitable to represent the interests of the classes of persons that he was appointed to represent;
- (d) without leave of the Council, has been absent from three or more consecutive meetings of the Council;
- (e) has applied to take, or takes, advantage of any law relating to bankruptcy, or has compounded, or entered into an arrangement, with his creditors; or
- (f) has been convicted (whether in this State or elsewhere) of an offence of such a nature that, in the opinion of the Governor, renders it improper for him to continue to hold his office.'

A council member is deemed to have misconducted himself if he votes on a matter before the council in which he has a direct or indirect monetary interest or takes part in, or is present at, any discussion of a matter before the council in which he holds a pecuniary interest, and has not disclosed this fact to the council.

The Minister, if he considers it warranted, may establish special advisory committees to advise himself or advise the Director of the Service or managing authority of any reserved area. Members and the chairman of the advisory committees are appointed by the Minister; the committee chairman holds only a deliberative vote.

Chapter 4

LOCAL GOVERNMENT

GENERAL DESCRIPTION

Historical

Introduction

In Tasmania, the functions of local government are more restricted than in some other countries as the State Government takes direct responsibility for important services such as the police, education, housing, public transport, etc. This peculiarity is not confined to Tasmania and is encountered in the other Australian States, where central control is exercised over functions often delegated to local government authorities in overseas countries; the origin of this tendency probably lies in early colonial history when the continent was virtually empty but the apparatus of government existed at each of the new coastal settlements (Sydney, Hobart, Perth, Melbourne, Adelaide and Brisbane, in order of age). In the Australian situation strong central administrations came first. Local government was a much later growth, the initiative for its creation often coming from the central administration itself in the respective colonies.

The development of local government in Tasmania falls into three distinct phases:

Hobart and Launceston

Hobart Town was granted elected commissioners in 1846, and under an Act of 1852, both Hobart and Launceston were given elected municipal councils. In 1857 the City of Hobart was incorporated, as was the Town of Launceston a year later. Launceston was proclaimed a city in 1888. For the next 76 years these were the only two cities in the State, but in 1964 the number was increased to three when Glenorchy was granted city status.

The form of local government in Hobart and Launceston is governed by separate corporation acts for each authority; in the case of Glenorchy, however, its operation as a city is provided for in the *Local Government Act 1962*.

Rest of State before 1906

Prior to the passing of the *Local Government Act 1906*, there was a great variety of elected Boards, Trusts, etc. in Tasmania, each in control of a district for certain specified objects, but they were all abolished by that Act.

Rest of State after 1906

Currently local government functions throughout the State, the relevant bodies being the Hobart, Launceston and Glenorchy city corporations and 46 municipalities. The genesis of this framework is found in the *Local Government Act 1906* under which a Commission was appointed to divide the State into not more than 60 districts and to subdivide each district into not less than three or more than five wards, each ward including as nearly as practicable an equal rateable area. The Commissioners were empowered to adjust the boundaries of adjoining municipalities, provided that in so dividing the State, any town could be deemed excluded from such boundaries. The cities (at that time, Hobart and Launceston) were not to be included, and were exempt from the provisions of the Act.

The Commissioners, in terms of the Act, divided the State into 49 districts but the later absorption of the municipalities of Queenborough and New Town into the City of Hobart reduced the number to 47; the granting of city status to Glenorchy in 1964 resulted in the present total of 46. The decision to create 49 districts may seem somewhat extravagant for a State with a population of under 190,000, but travel facilities and means of communication at that time were very poor. The creation of fewer but larger districts would have made it extremely difficult for the elected councillors to meet with any regularity, or for municipal inspectors, etc. to effectively cover their area of supervision.

Since 1906, there has come into effect a large body of legislation affecting local government and there has been some widening of function. Accordingly a new consolidating Act, the *Local Government Act* 1962, was passed and still operates.

City of Hobart

Description

The City of Hobart (42°54'S; 147°21'E) is the seat of the State Government and capital of the State of Tasmania. Founded in 1804, Hobart is the second oldest capital city in Australia.

The population of the City of Hobart was 52,425 and of Urban Hobart 129,808 at the Census of 30 June 1971. Further detailed information on the population centred on Hobart is contained in Chapter 6, 'Demography'.

Hobart City, covering 30.8 square miles, is built on the plains and foothills below Mt Wellington (4,166 feet) on the west, with the River Derwent on the east. The city has a first-rate deep-sea port where, during World War II, ships of up to 50,600 tons berthed without assistance. The eight-mile road to the summit of Mt Wellington passes through an enormous natural park which is the source of part of the city's water supply. Hobart has a mild climate, and its attractions include its mountain, picturesque harbour, broad river (spanned by a 1,200 yard four-lane bridge), early colonial architecture, the Queen's Domain and nearby beaches.

Hobart City Council

The present council consists of 12 aldermen, including the Lord Mayor and Deputy; elections are held every two years when six aldermen retire. The Lord Mayor and Deputy Lord Mayor are elected by the ratepayers at each biennial election; only aldermen of two years or more service are entitled to stand for election to these two offices. Candidates do not stand for wards, and all ratepayers can vote for the filling of vacancies. The most recent elections were held in June 1968, 1970 and 1972. An amendment to the *Hobart Corporation Act* in 1967 required electors to vote for at least six candidates in choosing aldermen; previously an elector could cast a valid vote even if he only chose one candidate (although there were six vacancies to fill).

Historical Development

In 1846 Hobart was divided into five wards, each electing three commissioners to deal with lighting, draining and paving; an elected municipal council was established in 1852 and in 1857 Hobart Town was proclaimed a city. Its graceful Town Hall was completed in 1866. The city was enlarged by the absorption of Glebe Town, Mt Stuart, Wellington, Queenborough and New Town between 1907 and 1920. The number of aldermen was last varied in 1934 (to 12), the year in which the title Lord Mayor was bestowed by Royal Command.

City of Launceston

Description

Launceston owes its origin to Lieutenant-Colonel Paterson who made a settlement lower down the Tamar in 1804 but moved upstream in 1806 to seek better land. The city surrounds the source of the Tamar River where it is formed by the confluence of the North Esk and South Esk Rivers. The Tamar is navigable along its 42 miles to Bass Strait. There are interstate berths in the city but the deepwater berths are downstream at Bell Bay, Beauty Point and Inspection Head, all within seven miles of the entrance to the Tamar.

The population of the City of Launceston at the Census of 30 June 1971 was 35,001. For statistical purposes Launceston is grouped with suburban portions of neighbouring municipalities to form 'Urban Launceston', population 62,181 at 30 June 1971. A description of 'Urban Launceston' and an explanation of the statistical concept involved will be found in Chapter 6, 'Demography'.

The city is well endowed with parks and gardens, one of the best known being the First Basin Reserve through which the South Esk River flows in the Cataract Gorge, providing a spectacle in flood-time. In common with Hobart, Launceston has many well preserved examples of colonial architecture.

Because of its central position, Launceston is a focal point for the State's transport and communication networks. Launceston has been described as the 'capital of the North' and has numerous retail, cultural, governmental and judicial associations with northern and north-eastern Tasmania.

Launceston City Council

The council consists of nine aldermen including the Mayor who is chosen each November. Elections are held each year when the three aldermen who have been in office for three years retire; they may stand for re-election. All property owners and occupiers, their spouses, and ex-servicemen residents are entitled to vote.

Historical Development

The first seven-member council was elected in 1853 and in 1858 the Town of Launceston was incorporated under the title of 'the Mayor, Aldermen and Burgesses of the Town of Launceston'. It was proclaimed a city in 1888 and was enlarged in 1907 by absorbing the towns of Invermay and Trevallyn. Its present form of local government is provided for in the *Launceston Corporation Act 1963*, as amended.

Local Government—Present Organisation

Authority and Functions

The authority for, and the forms of local government are prescribed entirely by State legislation which has largely been consolidated in the *Local Government Act 1962*. Hobart and Launceston cities operate under separate corporation Acts but the other authorities, including the City of Glenorchy, operate under the Act of 1962.

The functions of the municipalities are set out in broad general terms in Section 176 of the *Local Government Act* as:

'A Municipality: (a) may for the welfare and good government of its district and the inhabitants thereof: (i) make by-laws; (ii) undertake, make and maintain works, buildings and services; and (iii) order and dispose the common affairs of its members; and (b) shall cause the Queen's peace to be kept and maintained within its districts.'

Particular authority is given by Section 180 for a council clerk to be a Deputy Clerk of the Peace, Registrar of the Court of General Sessions and Clerk of Petty Sessions in his municipality.

In addition, by certain Acts, the municipalities are given specific responsibilities, e.g. *Health Act*, *Local Courts Act*, etc.

Administration of Justice

This responsibility of the municipality to administer the lower courts of justice is confined to Tasmania. It would appear to be a carry-over from the very early days of local government when the municipality was also required to provide the police force. In all other States the administration is in the hands of a State department. The practice here would now appear to be continued by reasons of expediency. (It should be noted that the process of removing this function from the municipalities has already commenced and the lower courts in the cities

of Hobart, Launceston and Glenorchy and the municipalities of Burnie, Clarence and Kingborough are administered by the State. It should also be noted that where municipalities administer the courts, they receive all fines into their revenue and in some instances the council clerks receive additional salary for this court work.)

Electors

Persons eligible to vote in local government elections consist of owners or occupiers of rateable land and their spouses together with ex-servicemen, all of whom must be natural born or naturalised British subjects over the age of 21 years.

In Tasmania, a system of plural voting is employed in which the number of votes per elector is proportional to the assessed annual value of the particular property. Each spouse elector and ex-serviceman elector has one vote.

South Australia and Western Australia also have plural voting for local government elections, while New South Wales, Victoria and Queensland employ the principle of a single vote per owner-occupier. In States with plural voting, entitlement scales are comparatively low (having been set many years ago) so that a majority of electors are actually entitled to the maximum number of votes.

An elector in Tasmania may exercise no more than four votes in any one municipal election except: (i) in the case of subdivided municipalities where elections for each ward are treated as separate; and (ii) where he is voting on behalf of another person or organisation (e.g. a corporation, estate, absentee owner, convict, unnaturalised alien) in which case he may exercise up to 12 votes in each ward.

In no Australian State are unnaturalised aliens, who are owner-occupiers, eligible to vote at local government elections; Tasmania is the only State with a provision for aliens to have another person vote on their behalf.

Councillors

A councillor must be an elector of, and either reside in, or carry on business in, the municipality and is subject to disqualification for certain breaches of conduct. The term of office is three years and one-third of the council retires each year. Councils may comprise six, nine, 12 or 15 councillors. The Warden, Deputy Warden and Treasurer are elected by the Council members on an annual basis. (The electors of the City of Hobart elect the Lord Mayor and in Launceston and Glenorchy the electors elect the Mayor.) The office of Warden is comparable with that of the Mayor of a city or the President of a shire in other States.

Government Intervention

For any of a number of reasons, the Minister administering the *Local Government Act* may consider it necessary to recommend suspension of the elected councillors and the appointment of a commission, or in certain cases an administrator, to carry on municipal government in a particular municipality. In 1971, Clarence and Zeehan were administered by multi-member commissions. Commissioners and administrators are appointed by the Governor. Provision exists under the Act for the restoration of elected councils, subject to certain conditions being satisfied; this occurred during 1971 in Kingborough and St Leonards. In both municipalities nine-man councils were elected from three wards.

Cities, Municipalities and Towns

In Tasmania there are only two categories of local government; a municipality or a city. The Act provides for the establishment of towns and indicates requirements before such towns are proclaimed but these are not municipal administrative units. Generally an area is proclaimed as a town to bring into action certain provisions relating to rating and to building requirements. Before a municipality can petition for a town to become a city, the town must have had, for five years before the petition, a population of not less than 20,000.

Other than this population requirement for a city there are no provisions, such as exist in some of the other States and in Canada, for enlarging or diminishing the status of municipalities to accord with increasing or decreasing population.

Sources of Revenue

There are four main sources of local government revenue, namely rates, government grants, business undertakings and services. The rates are levied at so much in the dollar on the assessed annual value without any fixed maximum. Receipts from rates have not for sometime met the expense of the increasing range and cost of the services supplied. Government grants are a recognised means of increasing the revenue of municipalities.

The municipalities are unable to collect any rates for land owned by the Crown but where services are provided, the Crown does pay for such services. Grants and subsidies are made, generally speaking, to assist the municipalities to meet the overall costs of municipal government and sometimes the grant is made to assist in a particular project. Grants are sometimes made to induce the councils to provide or develop certain services and may also be made to assist in paying the costs of particular services shared by two or more adjoining municipalities. Earnings from business undertakings include charges for the supply of water and for the use of abattoirs. Some of these businesses show a small profit but, in most cases, the fees demanded are just sufficient to cover the cost of providing the services.

In the matter of water supply, where a number of local government areas could be served from a common source, the State Government did not consider a system of individual grants adequate and created two statutory authorities to act as 'wholesalers', the affected local government authorities acting as 'retailers'. This development is described later in the chapter under 'Water Supply and Sewerage'.

Municipal Commission

Provision was also made in the *Local Government Act* 1962 for the appointment of a commission, to be called the Municipal Commission. The Commission is a permanent body, whose members hold office for five years. The prime function of the Commission was to investigate the question of existing boundaries and municipal finances.

In October 1965 the Commission issued, in the one publication, seven reports containing, as principal recommendations, proposals for a reduction in the number of local government authorities from 49 to 20. Several municipal bodies appealed to the Supreme Court against the validity of the report and were given the right to appeal to the High Court of Australia. The High Court subsequently upheld the report's validity; but the Government rejected the report.

Following amendments to the *Local Government Act* in 1971 a new Municipal Commission was appointed in 1972.

For a more detailed account of the Report of the Municipal Commission, refer to the 1970 and earlier editions of the *Year Book*.

PLANNING AUTHORITIES

Town and Country Planning Commissioner's Office

Introduction

Before the Federal Labor Government took office in 1941, governments (both State and Commonwealth) had shown little interest in town planning legislation. The war-time Federal Labor Government encouraged activity in this field and in the period 1944-45 four States, including Tasmania, passed legislation with provisions largely based on existing British and New Zealand planning statutes.

Passed in 1944, the *Tasmanian Town and Country Planning Act* applied only to areas which were proclaimed as a result of municipal requests. The Act created the position of Town and Country Planning Commissioner and made him responsible to the Minister for Lands and Works; any decisions made by the Commissioner are subject to ministerial approval. In 1962 the *Town and Country Planning Act* was repealed and its provisions incorporated in *PART XVIII* of the *Local Government Act* 1962 under which the powers of the Commissioner were broadened so that, with the approval of the Minister, he could require any municipality to prepare a planning scheme.

The Governor appoints the Commissioner for a period not exceeding five years but may terminate his appointment at any time. The Commissioner is also a member of the following bodies: the Building Regulations and Nomenclature Boards; and the Co-ordination of Mapping Committee.

The Town and Country Planning Commissioner's office exercises statutory power in its own right but for administrative convenience it is regarded as a branch of the Public Works Department. The office consists of the Commissioner, the Deputy Commissioner and a small staff. The Town and Country Planning Commissioner's office should not be confused with the Southern Metropolitan Master Planning Authority, described next in this chapter.

Functions

Briefly the function of the Commissioner is to approve municipal planning schemes and to certify that sub-division proposals are in accordance with the schemes and meet the other requirements as laid down in the *Local Government Act* 1962. Also the Commissioner may require: (i) any municipality to prepare a planning scheme; (ii) two or more municipalities to co-operate in the preparation of a master planning scheme; he is empowered to specify the completion date for such schemes. If the municipality fails to comply with the Commissioner's requests, then the Commissioner may prepare a scheme, the municipality meeting all preparation costs. A municipality may voluntarily prepare a planning scheme and submit it to the Commissioner for approval. If a scheme prepared for an area to which a master plan applies is submitted to the Commissioner for approval then the Commissioner, before giving a decision, must consult the authority which prepared the master plan.

The Commissioner is also empowered to deal with objections to any planning scheme, including master plans prepared by a master planning authority.

In relation to non-rural sub-divisions, the Commissioner's approval is required, all activities of this nature being subject to *PART XVIII* of the Act.

Scope of Plan

A town and country planning scheme may deal with the following planning matters: (i) all roads (public and private), streets, footpaths, building lines and land adjacent to foreshores; the plan should cover both alteration to existing roads, streets, etc. and proposed new roads, streets, etc.; (ii) positioning of buildings and the general nature and design of buildings; (iii) preservation of land for afforestation, recreation and public works; (iv) preservation of objects of historical or natural interest; (v) sewerage and drainage; (vi) lighting and water supply systems; (vii) specification of the use to which areas may be put; (viii) provision of amenities; (ix) stages of development; (x) ancillary or consequential works.

Southern Metropolitan Master Planning Authority

Introduction

The Southern Metropolitan Master Planning Authority is responsible for planning the development of an area best defined broadly as a triangle based on Pontville (Brighton Municipality), Snug (Kingborough Municipality) and Seven Mile Beach (Clarence Municipality), which includes the Cities of Hobart and Glenorchy and also those parts of Brighton, Kingborough and Clarence Municipalities which are likely, in the future, to experience urban expansion because of their proximity to Hobart.

Representation and Finance

The *Local Government Act* 1962 prescribes that each city shall have the right to appoint three representatives and each municipality two representatives to the authority. The authority is empowered to make contracts, accept trusts of properties for town-planning purposes, make by-laws for domestic purposes and obtain a townplanning contribution based on the annual value of all rateable property.

Functions of the Authority

The main functions of the Authority are: (i) the technical and legal preparation of a master plan for the prescribed area (the detailed planning nevertheless remaining the responsibility of each constituent municipality or city); (ii) the conduct of surveys and studies to facilitate the preparation of the master plan; and (iii) preparation of maps of the developed and developing parts of the metropolitan area.

The Master Plan

The Master Plan 1962 was put up for statutory exhibition (for a compulsory period of three months). Following objections the Authority withdrew the plan and the State Government decided to undertake a full transportation study, the results of which became available late in 1964. An interim 'Townplanning Policies Map 1964' was issued, as a guide to member councils in their detailed planning and to other authorities concerned with development in the Southern Metropolitan Area, while the Master Plan is being revised.

Tamar Regional Master Planning Authority

The Tamar Regional Master Planning Authority was established in September 1969, following a petition to the State Government by the City of Launceston and the Municipalities of Beaconsfield, George Town, Lilydale, Longford and St Leonards. Westbury and Evandale, two essentially rural municipalities, declined to join the Authority.

The Authority consists of three representatives from the Launceston City Council and two from each of the member municipalities. Financial support is given by the constituent councils, in proportion to the annual value of rateable property.

The principal objective of the Authority is the unified promotion and development of the Tamar Valley region. A consortium of town planning consultants was engaged to produce a preliminary plan which was completed in mid-1971. This plan is now being developed into a statutory plan by the Authority's planning staff.

North West Master Planning Authority

This Authority was constituted in February 1971 in accordance with the provisions of the *Local Government Act* 1962. Initial member municipalities were Latrobe, Kentish, Devonport, Ulverstone, Penguin, Burnie and Wynyard. The Municipality of Circular Head became a member in mid-1972. Constituent Councils each have two members on the Authority. Finance is obtained from member municipalities in proportion to the annual value of rateable property.

Containing a population of approximately 84,500, the Authority's area of jurisdiction embraces eight principal towns, rich primary producing and grazing districts, substantial industrial establishments, four ports and three airports.

The objective of the Authority is to promote the development of the region along sound economic and environmental lines. Under the *Local Government Act*, it has the responsibility of preparing a master plan for the region and has commissioned a firm of planning consultants to undertake a comprehensive survey and produce an outline development plan.

Transportation Studies

Hobart

The 1964 Hobart Area Transportation Study examined traffic problems in detail and brought to public attention the need for greatly increased expenditure in meeting these problems. The findings of the study were that metropolitan traffic would increase nearly 100 per cent during the 20 years following the survey and that a number of major new roads would be required.

During 1970-71 the Transportation Study was updated to make allowances for changes in traffic priorities since the 1964 investigation.

Launceston

The realisation that existing traffic problems in the Launceston area would become more acute with the passage of time, led to the undertaking of a traffic survey during 1967 which closely paralleled the Hobart study.

The purpose of the survey was to predict the transportation needs of Urban Launceston some 20 years in the future and to determine what improvements to the existing transportation system would be appropriate to meet these needs.

Main proposals resulting from the survey were: a new bridge across the South Esk at Royal Park; a north-south expressway along the east bank of the Tamar; a second expressway, also running north to south, in the valley of the North Esk, curving westwards to the Bass Highway at Youngtown; and connecting roads (one-way in the central business district and two-way in the outer areas) between the major elements of the system.

FINANCE

Introduction

For local government purposes Tasmania is divided into 49 areas, comprising 46 municipalities and the Cities of Hobart, Launceston and Glenorchy. There are no unincorporated areas.

Local government finance statistics in Tasmania are compiled by the Bureau of Census and Statistics from the following sources:

(i) *The 46 Municipalities*: Each municipality is required to submit annually to the Auditor-General a 'Statement of Accounts' in pursuance of section 329 of the *Local Government Act 1962*; copies of these statements are made available to the Bureau. The 'Statements of Accounts' are compiled by the municipalities on a *cash receipts and payments* basis and two basic types of accounts are distinguished, namely revenue and loan accounts.

(ii) *The Cities*: The Cities of Hobart, Glenorchy and Launceston submit annually to the Auditor-General statements of accounts compiled on an *income and expenditure* basis but these are analysed on a cash receipts and payments basis by the Bureau for combination with municipal data.

The term 'local government' is employed only in relation to the municipalities and city corporations. Details of semi-government authorities concerned with water supply appear in the last section of this chapter; such authorities provide bulk water but reticulation and sale to householders remain a local government function. Since 1961 the Metropolitan Water Board has incurred loan debts which, under earlier arrangements, would have been entered as the water loan debts of Hobart, Glenorchy, Clarence and Kingborough local government authorities.

Value of Rateable Property

Revenue for local government authorities in Tasmania is derived principally from rates. Under the *Local Government Act* 1962, rates may be based on annual value (i.e. annual rental from a property if rented), unimproved value (i.e. value of land only), the capital value (i.e. value of land plus improvements), or finally upon a composite value incorporating the unimproved value plus some arbitrary proportion of the value of improvements.

In Tasmania, it has been usual for rates to be based on annual values despite isolated and unsuccessful campaigns in favour of taxing on unimproved value only. In estimating annual value, the valuer is taking into account not only the land but also the improvements (e.g. buildings) so there is, in actual fact, a close relationship between total capital value of any property and its assessed annual value. The *Land Valuation Act* 1950 fixes a minimum relationship between annual value and capital value (four per cent) but sets no maximum.

The following table shows the total value of all rateable properties in the State and gives individual details for local government authorities with total capital value exceeding \$20m (there were 20 in 1970-71).

Value of Rateable Properties: Principal Local Government Authorities
(\$ million)

Local Government Authority	Year of Revaluation (a)	1968-69		1969-70		1970-71	
		Total Capital Value	Rateable Annual Value	Total Capital Value	Rateable Annual Value	Total Capital Value	Rateable Annual Value
Hobart	1969	293.93	17.88	336.58	23.07	355.06	23.42
Launceston	1970	146.81	11.57	148.61	11.75	163.25	13.15
Glenorchy	1968	144.83	9.52	148.69	9.83	153.41	10.33
Clarence	1969	94.01	4.37	123.48	6.91	130.81	7.20
Burnie	1970	67.89	4.33	70.98	4.49	101.17	6.25
Devonport	1967	72.83	4.21	74.65	4.35	78.36	4.59
St Leonards	1966	42.10	2.60	42.90	2.81	44.53	2.87
New Norfolk	1966	33.22	1.38	39.70	1.57	40.09	2.06
Ulverstone	1969	30.72	1.61	38.81	2.19	39.93	2.24
Kingborough	1968	36.16	1.84	37.10	1.89	38.52	1.95
Beaconsfield	1969	29.84	1.72	37.17	2.22	38.22	2.32
Circular Head	1968	32.38	1.56	32.97	1.59	33.39	1.63
Wynyard	1967	28.90	1.56	30.06	1.61	31.02	1.72
Longford	1969	21.41	1.04	27.23	1.31	27.27	1.32
George Town	1967	22.53	1.42	23.85	1.48	24.46	1.49
Westbury	1968	23.81	1.07	24.03	1.08	24.34	1.09
Lilydale	1966	20.00	1.17	20.94	1.24	21.38	1.27
Latrobe	1966	18.94	0.80	19.44	0.98	21.33	0.94
Deloraine	1966	20.21	0.96	20.25	0.90	20.45	0.91
Huon	1970	15.21	0.66	15.43	0.67	20.44	0.89
Remaining Municipalities ..	..	266.37	12.05	275.97	12.43	291.32	13.23
Total Tasmania .. .. .	..	1,462.12	83.30	1,588.84	94.39	1,698.77	100.87

(a) Latest revaluation affecting table values. Effective from 1 July of year shown.

System of Valuation

The valuation of property is carried out by a State Government authority, the Land Valuation Branch; its valuations form the basis for two distinct taxes: (i) land tax collected by the State on the basis of unimproved land values; (ii) rates collected by local government authorities on the basis of assessed annual values. Since it is impossible to value all the properties within the State in the course of a single year, valuation is carried out on a rotational basis, e.g. Launceston and Burnie valued in 1965 and again in 1970.

The table that follows shows the total value of rateable property in Tasmania over the last 10 years:

Total Rateable Property Valuation in all Local Government Areas
(\$ million)

Year	Unimproved Value	Value of Improvements	Total Capital Value	Year	Unimproved Value	Value of Improvements	Total Capital Value
1961-62 ..	193.6	676.5	870.1	1966-67 ..	329.1	948.7	1,277.8
1962-63 ..	216.1	726.8	942.9	1967-68 ..	351.7	1,007.9	1,359.6
1963-64 ..	271.6	803.5	1,075.1	1968-69 ..	375.0	1,087.1	1,462.1
1964-65 ..	290.5	849.9	1,140.4	1969-70 ..	412.7	1,176.1	1,588.8
1965-66 ..	317.7	893.4	1,211.1	1970-71 ..	442.5	1,256.3	1,698.8

Total Receipts and Payments

The following table shows total receipts and payments of the Tasmanian municipalities and cities:

Local Government Authorities
Total Receipts and Payments: All Funds
(\$'000)

Year	Opening Balance (a)	Receipts			Payments			Surplus (+) or Deficit (-)
		Loan Accounts (b)	Revenue Accounts (c)	Total	Loan Accounts	Revenue Accounts	Total	
1965-66 ..	5,819	7,527	18,187	25,715	8,301	17,863	26,164	- 451
1966-67 ..	5,374	7,595	20,122	27,717	8,044	19,563	27,607	+ 109
1967-68 ..	5,486	9,611	21,708	31,320	9,325	20,942	30,267	+1,053
1968-69 ..	6,539	8,682	23,959	32,641	8,634	23,249	31,883	+ 758
1969-70 ..	7,297	7,469	25,914	33,383	7,972	24,816	32,788	+ 595
1970-71 ..	7,893	8,164	28,232	36,396	7,494	27,191	34,685	+1,711

(a) Bank balances (less unrepresented cheques), securities and cash on hand.

(b) Includes loan raisings, sales, capital grants received, etc.

(c) Includes grants from the Metropolitan Water Board to cover working expenses.

Business Undertakings

In the analysis of the local government authority accounts a distinction is drawn between 'ordinary services' and 'business undertakings'.

The classification 'business undertakings' is used in Australian local government finance statistics to include municipal tram and bus services, municipal electricity supply (generation or distribution), municipal water and sewerage schemes, municipal abattoirs, etc. In Tasmanian local government finance statistics, electricity supply ceased to appear as from 1948-49 (the Hydro-Electric Commission is now the sole supplier). Municipal tram and bus services ceased to appear as an item in 1955-56, the Metropolitan Transport Trust having acquired the city transport services operating in Hobart and Launceston. Consequently, the only activities under the heading of municipal 'business undertakings' in current Tasmanian statistics relate to water supply, sewerage and abattoirs.

Rate Collections

There is considerable diversity in the types of rates imposed by individual local government authorities. In Hobart, virtually all properties are subject to the one consolidated rate and a similar position exists in Launceston; in most municipalities, however, the property holder, after being charged the basic road, light, health and general rates, is subject also to additional rates assessed according to the location of the property and the nature of the services provided (e.g. a fire brigade rate for properties which are close enough for fire brigade protection, a water rate where the service is available). Property holders in a particular district may be called upon to pay a special rate for an improvement peculiar to that area (e.g. a reserves and recreation rate to finance a sports ground or a garbage rate to finance a disposal service).

The following table shows details of the rates collected in Tasmania during a three-year period:

Rates Received (a) by Local Government Authorities
(**\$'000**)

Particulars	1968-69	1969-70	1970-71
Ordinary Rates (b)—			
General	4,898	5,047	5,293
Light	232	254	259
Road	3,647	4,013	4,257
Health	324	354	377
Sanitary and Garbage	252	247	254
Reserves and Recreation	720	832	939
Halls	80	85	96
Library	119	144	145
Fire Brigade	122	145	144
Drainage	92	104	119
Other	25	57	66
Total	10,510	11,282	11,950
Business Undertakings' Rates—			
Water	3,413	3,613	3,910
Sewerage	1,983	2,287	2,673
Total	5,395	5,899	6,583
Grand Total	15,905	17,181	18,533

(a) Net of refunds.

(b) Where a single consolidated rate has been charged (e.g. Hobart and Launceston), the collection has been dissected between 'ordinary' and the two 'business undertakings' components but the 'ordinary' component has been entered, without further analysis as 'general'.

Revenue of Local Government Authorities

The biggest proportion of local government revenue comes from rates (66 per cent in 1970-71) and these are direct charges on owners of property.

After rates, the next most important sources of revenue are: (i) Government and semi-government grants; and (ii) charges for public works and services. The next table shows, for a three-year period, the total annual revenue receipts, according to source, of all municipalities and cities.

Local Government Authorities
Revenue Fund Receipts, Ordinary Services and Business Undertakings
Classified According to Source
(\$'000)

Source of Receipts	1968-69	1969-70	1970-71
Ordinary Services—			
Rates	10,510	11,282	11,950
Licences	169	180	175
Total	10,679	11,463	12,125
Public Works and Services—			
Health	61	59	74
Sanitary, Garbage and Street Cleaning	17	19	21
Recreational Facilities	350	415	466
Halls and Community Centres	65	71	73
Council Residences	65	83	70
Cemeteries and Crematoria	126	142	155
Roads	100	124	102
Parking	480	563	634
Private Works	345	375	362
Plant Sales	49	41	165
Other	686	864	836
Total	2,345	2,753	2,959
Government and Semi-Government Grants—			
Roads	1,544	1,600	1,932
Other	286	272	314
Total	1,829	1,872	2,246
Other Receipts (a)	773	862	1,021
Total Ordinary Services	15,626	16,949	18,351
Business Undertakings—			
Water Supply—			
Rates	3,413	3,613	3,910
Government and Semi-Government Grants	1,361	1,345	1,604
Other	545	550	549
Total	5,319	5,508	6,063
Sewerage—			
Rates	1,983	2,287	2,673
Government and Semi-Government Grants	114	156	152
Other	165	207	223
Total	2,263	2,649	3,048
Abattoirs, Other (b)	750	808	769
Total Business Undertakings	8,333	8,965	9,881
Grand Total	23,959	25,914	28,232

(a) Includes additions to sinking funds, interest earnings, net deposits, donations and tolls.

(b) Comprises fees charged, sales of products, etc.

Revenue Receipts Summary

The preceding table does not show combined figures for all rates and government grants; totals for these items are included in the summary which follows:

**Revenue Fund Receipts, Ordinary Services and Business Undertakings
(\$'000)**

Year	All Rates (net)	Licences	All Govt and Semi-Govt Grants	Business Undertakings (a)	Ordinary Works and Services	Other Receipts	Total Receipts
1965-66 ..	11,512	114	2,818	931	2,158	654	18,187
1966-67 ..	12,858	134	3,024	1,086	2,161	858	20,122
1967-68 ..	14,371	147	3,049	1,213	2,261	668	21,708
1968-69 ..	15,905	169	3,305	1,460	2,345	773	23,959
1969-70 ..	17,181	180	3,372	1,566	2,753	862	25,914
1970-71 ..	18,533	175	4,003	1,541	2,959	1,021	28,232

(a) Excludes rates and grants which are shown separately.

Woodchip Toll

In 1971 local government authorities demanded that woodchip carters pay for the damage which they caused to council roads. The councils (i.e. municipalities) proposed a toll of 2.5 cents per ton-mile. The Municipal Association stated that this was the minimum rate needed to cover increased costs of maintaining roads used by the woodchip industry. The woodchip companies refused to meet the councils' demands; their proposal of a cent per ton-mile was not acceptable to the councils. A compromise could not be reached and the question was placed before the State Government for arbitration.

In February 1972 the Minister for Lands and Works announced the Government's decision. The toll was fixed at 1.4 cents per ton-mile; however, the Minister has the power to increase the toll to 4 cents per ton-mile for sealed roads. The increased rate can only be applied at the request of the council and if the Minister decides that the council request is justified. The toll rates are to be reviewed in 1974.

Councils adopting the ton-mile toll system, unless they have Ministerial approval, are not permitted to close roads to carriers paying the toll. The funds raised by the council from the toll must be spent on roads which are used by woodchip vehicles. In the case of roads which are listed as non-typical for application of the standard toll, the woodchip companies are required to negotiate with councils for future road maintenance and strengthening costs.

Revenue Payments by Local Government Authorities

The following table shows annual payments by local government authorities from revenue funds:

**Local Government Authorities
Revenue Fund Payments, Ordinary Services and Business Undertakings
Classified According to Service
(\$'000)**

Payments for	1968-69	1969-70	1970-71
Ordinary Services—			
General Administration	1,968	2,217	2,544
Loan Charges—Interest	1,677	1,875	2,013
Redemption	1,413	1,610	1,647
Sinking Fund Contributions ..	168	173	190
Total	3,258	3,658	3,850

Local Government Authorities
Revenue Fund Payments, Ordinary Services and Business Undertakings
Classified According to Service—continued
(\$'000)

Payments for	1968-69	1969-70	1970-71
Ordinary Services—continued			
Public Works and Services—			
Road, Street and Bridge Construction ..	4,784	4,850	5,552
Other Road Services (a)	—92	—154	—159
Health	425	395	416
Sanitary, Garbage and Street Cleaning ..	636	641	674
Recreational Facilities	1,189	1,279	1,432
Libraries	96	116	298
Street Lighting	361	387	392
Private Works	232	254	228
Parking	237	281	502
Hotmix and Asphalt Plant	189	225	244
Other	1,123	1,166	1,074
Total	9,179	9,439	10,653
Grants	582	631	701
Other Payments	63	132	—161
Total Ordinary Services	15,049	16,077	17,587
Business Undertakings—			
Water Supply—			
Loan Charges—Interest	816	828	843
Redemption	609	613	796
Sinking Fund Contributions ..	25	25	19
Total	1,451	1,466	1,658
Other Payments (b)	3,794	4,050	4,322
Total Water Supply	5,244	5,516	5,980
Sewerage—			
Loan Charges—Interest	968	1,105	1,239
Redemption	473	539	582
Sinking Fund Contributions ..	41	43	38
Total	1,482	1,687	1,859
Other Payments (c)	841	975	1,144
Total Sewerage	2,323	2,662	3,002
Abattoirs—			
Loan Charges—Interest	50	49	54
Redemption	124	27	34
Sinking Fund Contributions ..	9	10	9
Total	183	86	97
Other Payments (c)	449	475	524
Total Abattoirs	632	561	621
Total Business Undertakings ..	8,200	8,739	9,603
Grand Total	23,249	24,816	27,191

(a) Net plant working (plant maintenance and operating expenses less hire charged to plant working accounts plus plant purchase (\$683,000 in 1970-71)).

(b) Comprises grants paid to semi-government authorities (principally the Metropolitan Water Board), working expenses, capital expenditure out of revenue fund and sundry payments.

(c) Comprises working expenses, capital expenditure out of revenue fund and sundry payments.

The Beaconsfield municipality is served by the West Tamar Water Supply Scheme, which the municipality maintains and manages as agent for the Rivers and Water Supply Commission. All debt in the municipality in respect of water supply became the responsibility of the Commission on 1 July 1960; interest and principal repayments to the Commission on loans raised for the purpose of this water have been included in 'Water Supply—Other Payments' in the previous table.

Launceston, Burnie, Devonport and Campbell Town operate municipal abattoirs; other abattoirs in Tasmania are operated by the private sector.

Below is a summary of local government revenue fund payments:

**Payments, Ordinary Services and Business Undertakings
(\$'000)**

Year	Adminis- tration (a)	Loan Charges (b)			Other Payments			Total
					Ordinary Services		Business Under- takings	
		Interest (c)	Redemp- tion	Sinking Fund Contribu- tions	Roads, Streets, Bridges	Other		
1965-66 ..	1,392	2,574	2,009	202	4,205	3,913	3,568	17,863
1966-67 ..	1,558	2,815	2,188	218	4,224	4,561	4,001	19,563
1967-68 ..	1,753	3,159	2,235	233	4,687	4,425	4,450	20,942
1968-69 ..	1,968	3,512	2,619	243	4,784	5,039	5,084	23,249
1969-70 ..	2,217	3,858	2,789	250	4,850	5,353	5,500	24,816
1970-71 ..	2,544	4,149	3,059	256	5,548	5,644	5,989	27,191

(a) Administration charged to ordinary services only; includes interest on bank overdraft.

(b) Ordinary services and business undertakings.

(c) Excludes interest on bank overdraft.

Payroll Tax (Partial Exemption)

In 1971 the Commonwealth Government agreed to hand over payroll tax to State Governments and to reimburse the States for some of the loss of revenue arising from partial payroll tax exemption for local government authorities. Local government authorities are required to pay payroll tax on wages relating to water, sewerage, abattoirs and any trading activity (e.g. off-street parking) as prescribed in the *Local Government Act* 1962. Exemption of non-trading activities from payroll tax saves local government approximately \$100,000 during a full financial year.

Loan Receipts, Payments and Debt

At 30 June 1971 the aggregate loan debt of all local government authorities was \$75,753,000, of which only \$926,000 (i.e. 1.2 per cent) was in respect of debt due to the State Government. The principal Tasmanian sources of loans for local government authorities are banks, super-annuation and various trust funds, insurance companies; and for cities, public issues. The amount that any local government authority can raise is governed by: (i) the difficulty in finding willing lenders; (ii) the fact that the approval of the State Treasury is required; and (iii) under the *Local Government Act* 1962, total loan indebtedness is strictly controlled and cannot exceed a predetermined figure based on annual income for the preceding three years.

The following table shows, for a three-year period, the loan account receipts of all local government authorities:

Local Government Authorities: Loan Account Receipts
(£'000)

Particulars	1968-69	1969-70	1970-71
Loan Raisings for—			
Sewerage	2,671	2,004	2,134
Road, Street and Bridge Construction	1,856	1,781	1,527
Water Supply	666	700	1,020
Recreational Facilities	530	578	587
Other	1,910	1,731	1,696
Total Raisings.. .. .	7,633	6,794	6,964
Government and Semi-Government Grants	697	418	681
Other Receipts (a)	350	258	519
Total Receipts.. .. .	8,682	7,469	8,164

(a) Includes recoveries of capital expenditure, sales of materials credited to loan funds, contributions from the private sector credited to loan funds, etc.

The next table shows, for a five-year period, details of payments from the loan accounts of all local government authorities:

Local Government Authorities: Payments from Loan Accounts
Classified According to Purpose
(£'000)

Purpose	1966-67	1967-68	1968-69	1969-70	1970-71
Water	1,612	2,160	1,227	1,108	1,603
Sewerage	2,476	2,786	2,598	2,535	1,982
Drainage	248	268	359	371	293
Road, Street and Bridge Construction.. ..	1,962	1,904	2,048	2,046	1,915
Recreational Facilities	586	622	653	590	707
Halls and Community Centres	66	180	202	220	128
Other	1,095	1,405	1,548	1,101	867
Total	8,044	9,325	8,634	7,972	7,494

The following table shows, in summary form, loan raisings, loan debt and sinking funds:

Local Government Authorities: Loan Raisings, Loan Debt and Sinking Funds
(£'000)

Year	Loan Raisings During Financial Year			Loan Debt at 30 June			Total of Sinking Funds at 30 June (c)
	From State Government (a)	From Other Sources (b)	Total	To State Government	To Other Creditors	Total	
1965-66 ..	82	6,430	6,512	977	51,119	52,096	991
1966-67 ..	21	6,960	6,981	907	55,980	56,888	1,206
1967-68 ..	79	8,104	8,183	917	61,903	62,821	1,496
1968-69 ..	35	7,599	7,633	917	66,922	67,839	1,706
1969-70 ..	44	6,751	6,794	934	70,918	71,854	1,893
1970-71 ..	179	6,784	6,964	926	74,826	75,753	2,164

(a) These advances were from the State Treasury direct, and exclude those from authorities such as the Housing Department and the Metropolitan Transport Trust.

(b) Includes advances from the Housing Department and the Metropolitan Transport Trust.

(c) Sinking funds maintained by municipalities and cities for debt redemption purposes.

Source of Loan Funds

It can be seen from the preceding table that the local government loan debt includes only a small liability in respect of advances made by the State Treasury. The proportion of total debt now owed to State authorities (but not directly to the Treasury) has increased somewhat, principally due to co-operation between individual municipalities and the State Housing Department. In planning the establishment of large housing estates, the Housing Department has been concerned with the provision of certain essential services (e.g. water and sewerage); where such services have required capital expenditure by a municipality, the Department has made some loan funds available.

Instalment Debentures

Much of the debt of the municipalities is in the form of instalment debentures which involve equal periodic payments (usually yearly or half-yearly); such payments are credited to redemption and interest in changing proportions, the accounting being the same as used to record home instalment purchase transactions.

Financial Statistics of Individual Local Government Authorities

In this chapter, local government finance statistics are presented, in the main, only in total; similar detailed statistics for individual authorities may be found in the Bureau's Tasmanian Office annual *Finance* bulletin. The following table shows, for each local government authority: (i) receipts from rates; (ii) payments from loan and revenue accounts; (iii) balance of funds; and (iv) loan debt.

Individual Local Government Authorities: Financial Summary, 1970-71
(£'000)

Local Government Authority	Total Receipts from Rates and Licences (Net)	Payments		Funds at 30-6-71 (a)	Loan Debt at 30-6-71
		Loan Accounts	Revenue Accounts		
Beaconsfield	(b) 459.3	91.2	604.3	222.4	1,566.0
Bothwell	52.1	..	93.9	-4.8	28.0
Brighton	61.0	10.1	164.7	58.7	114.2
Bruny	18.4	..	38.7	9.5	11.6
Burnie	1,177.1	845.3	1,584.8	548.3	5,149.6
Campbell Town	88.6	30.2	141.2	68.6	293.0
Circular Head	290.4	97.4	408.6	288.9	630.7
Clarence	1,548.9	774.6	2,331.3	-19.5	6,777.4
Deloraine	140.2	22.3	195.7	63.1	266.7
Devonport	1,000.2	901.0	1,264.2	150.3	5,734.4
Esperance	126.3	4.3	165.2	49.7	403.2
Evandale	76.5	..	101.5	57.4	113.8
Fingal	100.2	5.3	160.2	45.5	265.4
Flinders	66.5	9.7	145.6	45.1	151.9
George Town	283.1	100.7	443.8	53.5	1,155.7
Glamorgan	75.1	39.3	104.0	0.8	334.8
Glenorchy (City)	1,937.8	630.3	2,511.0	495.9	7,916.3
Gormanston	15.7	..	18.8	6.8	..
Green Ponds	34.6	5.0	69.4	10.4	49.2
Hamilton	75.9	20.9	155.1	8.4	137.8
Hobart (City)	3,718.7	933.6	5,460.0	2,932.4	15,989.8
Huon	134.1	14.4	239.3	22.5	424.0
Kentish	127.8	17.4	345.6	38.2	401.2
Kingborough	515.5	318.8	711.1	151.3	2,213.3
King Island	109.6	4.6	174.1	98.1	335.4
Latrobe	208.7	127.0	272.2	158.6	882.4
Launceston (City)	2,419.3	628.5	3,988.3	2,782.3	9,032.2
Lilydale	249.1	46.3	317.0	151.6	861.5

Individual Local Government Authorities: Financial Summary, 1970-71—continued
(**\$'000**)

Local Government Authority	Total Receipts from Rates and Licences (Net)	Payments		Funds at 30-6-71 (a)	Loan Debt at 30-6-71
		Loan Accounts	Revenue Accounts		
Longford	219.3	161.1	290.5	59.5	1,172.8
New Norfolk	287.6	125.0	412.8	108.0	852.3
Oatlands	97.4	2.1	158.2	51.4	156.6
Penguin	157.3	97.2	208.2	51.0	588.1
Port Cygnet	83.2	3.4	126.9	47.0	179.2
Portland	80.3	38.4	148.3	16.9	292.3
Queenstown	156.1	186.5	153.1	84.4	214.7
Richmond	71.9	13.1	123.7	8.3	207.7
Ringarooma	80.9	0.7	129.1	39.3	87.7
Ross	30.6	..	49.3	35.9	20.4
St Leonards	662.3	214.8	793.1	123.6	2,991.4
Scottsdale	130.9	81.0	222.2	29.3	717.7
Sorell	172.9	93.1	349.7	36.7	889.7
Spring Bay	56.6	37.0	81.8	26.8	139.3
Strahan	18.7	..	39.4	-10.9	131.1
Tasman	26.2	5.0	53.9	9.0	31.3
Ulverstone	425.8	218.1	611.2	117.7	2,736.7
Waratah	47.4	..	49.3	18.3	44.5
Westbury	174.1	40.3	204.7	55.8	380.9
Wynyard	440.8	285.8	566.6	183.5	2,115.7
Zeehan	176.9	213.6	209.0	18.5	562.9
Total	18,707.9	7,494.4	27,190.7	9,603.6	75,752.6

(a) Value of bank balances (less unrepresented cheques), securities and cash on hand.

(b) Includes water rates of \$132,000 collected by the Beaconsfield Council on behalf of the Rivers and Water Supply Commission.

Revenue Raising

The very wide range in the individual capacity of each of the 49 local government authorities to raise revenue, using boundaries which in many cases date back to 1906, was one of the factors advanced by the Municipal Commission when it made its 1965 report; amalgamation of existing authorities into larger units was seen as a method of solving this problem.

The range in the capacities of individual local government authorities to raise revenue is illustrated by the preceding table. Local Government authorities collecting the greatest sums in rates and licences during 1970-71 were: Hobart (\$3.72m); Launceston (\$2.42m); Glenorchy (\$1.94m); Clarence (\$1.55m); Burnie (\$1.18m); Devonport (\$1.00m); St Leonards (\$0.66m); and Kingborough (\$0.52m). At the other end of the scale there were twenty local government authorities which collected less than one hundred thousand dollars in rates and licences during 1970-71. Authorities with the lowest receipts from rates and licences in 1970-71 were (amounts in \$'000): Green Ponds (34.6); Ross (30.6); Tasman (26.2); Strahan (18.7); Bruny (18.4); and Gormanston (15.7). Low revenue raising potential not only affects the local government authority's ability to cover the running expenses of the authority (e.g. maintenance of roads, recreation facilities, water supply and sewerage (where provided) and debt charges) but also the authority's ability to raise loan funds to carry out new capital work projects (see earlier section 'Loan Receipts, Payments and Debt').

Employees of Local Government Authorities

The following table shows total employees of local government authorities over a five-year period. The number of employees of individual authorities ranges from over 550 persons to as low as two persons.

Local Government Authorities: Persons Employed (a) at 30 June

Particulars	1967	1968	1969	1970	1971
General Administration—					
Males	485	486	503	499	504
Females	195	192	188	202	220
Persons	680	678	691	701	724
All Other Services—					
Males	1,777	1,824	1,813	1,885	1,923
Females	43	59	62	58	37
Persons	1,820	1,883	1,875	1,943	1,960
Total—					
Males	2,262	2,310	2,316	2,384	2,427
Females	238	251	250	260	257
Persons	2,500	2,561	2,566	2,644	2,684

(a) Includes permanent and temporary employees but excludes part-time employees.

WATER SUPPLY AND SEWERAGE

Introduction

Water supply and sewerage were once exclusively the responsibility of the cities and municipalities; two semi-government authorities now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart and Launceston areas, and directly to certain industrial consumers.

Metropolitan Water Board: This semi-government authority is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government authority areas. A detailed description of the Board's functions and financial relationships with the individual local government authorities is given in the next section of this Chapter, 'Metropolitan Water Board'.

Rivers and Water Supply Commission: The Water Act 1957, proclaimed as from 1 September 1958, conferred on the Rivers and Water Supply Commission all powers which had been previously exercised by the Water, Sewerage and Drainage Board. The Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water and sewerage schemes. It also operates the North Esk Regional Water Supply, West Tamar Water Supply and Prosser River Schemes. A more detailed description of the Commission's functions in relation to local government and of the three water supply schemes is contained in a later section, 'Rivers and Water Supply Commission'.

Metropolitan Water Board

The overall control of water supply in Hobart, Clarence, Glenorchy and Kingborough is vested in the Metropolitan Water Board but the four local government authorities retain primary responsibility for reticulation and sale to consumers. The Board has a large pumping station and treatment plant at Bryn Estyn on the Derwent, pipeline capacity being 30m gallons per day. Before the Board came into operation in 1962, the four metropolitan local government authorities had their own supply schemes (e.g. Hobart was supplied from Lake Fenton and Mount Wellington); these schemes still operate but the Board's pumping works based on the Derwent now give an assured supply.

The Board also controls the Southern Regional Water Supply Scheme which draws water from the Derwent and was originally constructed to supply Hobart's eastern shore suburbs. (Reticulation is, however, still the responsibility of the local government authorities.) On the eastern shore, the Board has now extended its service to the towns of Cambridge, Midway Point, Sorell, Seven Mile Beach, Lauderdale and Rokeby, while western shore extensions serve Margate, Snug and Howden.

Financial Relationship

Under the *Metropolitan Water Board Act 1961*, the four metropolitan local government authorities no longer borrow money for metropolitan water works, but are provided with the necessary capital by the Board in the form of grants; the local authorities in turn being required to make revenue contributions to the Board. The effect of this arrangement can be seen in State local government loan debt tables where the debt in respect of water shows only very minor annual increases; in effect, the expenditure of the four metropolitan municipalities for water works undertaken since 1961 is reflected in the debt of the Board and not in debt of the municipalities. At 30 June 1971, the loan debt of the Board to the State Treasury was \$16.11m and, to other lenders, \$4.34m.

The financial relationship between the Board and the four metropolitan local government authorities is summarised in the following table:

Metropolitan Water Board: Income and Expenditure
('\$000)

Particulars	1968-69	1969-70	1970-71
INCOME			
Municipal Contributions—			
Hobart	710	735	787
Glenorchy	496	486	521
Clarence	555	524	553
Kingborough	94	90	97
Special Consumers	256	315	341
Direct Earnings, Southern Regional Scheme	194	232	255
Other Revenue	12	23	40
Total	2,316	2,406	2,594
EXPENDITURE			
Reimbursement of Working Expenses—			
Hobart	313	327	340
Glenorchy	217	238	247
Clarence	133	137	144
Kingborough	38	43	45
Bulk Supply, Operation Costs	329	322	340
Administrative Expenses	52	54	74
Interest	801	928	1,013
Depreciation	220	250	281
Investigation Expenses Written-Off .. .. .	..	39	..
Total	2,101	2,339	2,484

The payments by the Board to Hobart, Glenorchy, Clarence and Kingborough shown in the preceding table do not include its capital contributions to these authorities.

The Board makes capital contributions to the four local government authorities for: (i) construction and improvement of their water works; and (ii) redemption of their water debt raised prior to creation of the Board. The Board finances these capital contributions by: (i) borrowing from the State Government; (ii) borrowing from the public; and (iii) application of internal funds, e.g. depreciation funds. The next table shows capital contributions paid by the Board to the four local government authorities:

Metropolitan Water Board: Contributions to Southern Local Government Authorities
(£'000)

Particulars	1968-69	1969-70	1970-71
Hobart—			
Construction and Improvement	299	161	333
Redemption and Conversion	29	116	104
Total	328	276	436
Glenorchy—			
Construction and Improvement	170	129	128
Redemption and Conversion	75	55	57
Total	245	184	186
Clarence—			
Construction and Improvement	82	30	40
Redemption and Conversion	41	55	64
Total	123	85	104
Kingborough—			
Construction and Improvement	52	19	92
Redemption and Conversion	11	12	12
Total	63	31	104
Total—			
Construction and Improvement	602	339	593
Redemption and Conversion	155	237	237
Grand Total	757	576	830

Capital Expenditure

The Board's allocation of funds for capital purposes in 1970-71 was \$1,445,000 made up of \$900,000 from State Loan Funds and \$545,000 from semi-government loans. Of the allocation, 19.4 per cent was for extensions to Bryn Estyn headworks.

During 1970-71 work was commenced on a 2m gallon reservoir and pipeline for supplying water to the Housing Department Rokeby sub-division. Expected total cost of the scheme is \$193,000.

In the nine years of the Board's operations, the annual loan expenditure has averaged slightly less than \$2m. During this time the Board has completed such major projects as the Derwent Water Supply (\$5.8m); Sorell-Clarence extension (\$1.3m); Kingborough extension (\$0.6m); Risdon Brook Dam (\$2.9m), and made capital advances to the metropolitan municipalities for works under their control (\$6.1m) and loan conversions (\$1.8m).

Rivers and Water Supply Commission

Relations with Local Government Authorities

The Commission examines all proposed municipal water supply and sewerage schemes before construction commences to ensure that the schemes are economically sound. (Schemes proposed by the three cities (Hobart, Launceston and Glenorchy) are exempted from examin-

ation by the Commission.) If a scheme is considered to be beyond the financial resources of the local government authority and proposed rates meet or exceed the standards established by the Commission then it may recommend to the Minister, payment of a subsidy. At 1 July 1970 the annual standard charges were: (i) water supply schemes, \$33.00 per tenement and \$15.00 per vacant lot; and (ii) sewerage schemes, \$38.00 per tenement and \$16.00 per vacant lot. The Commission is also empowered to recommend subsidies for the purpose of assisting councils to pay for water supplied from the North Esk and Southern Regional Water Supply Schemes.

Regional Schemes

North Esk Regional Water Supply: The scheme, managed by the Commission, serves portions of the municipalities of Evandale, George Town, Lilydale, St Leonards and Westbury. In addition the scheme provides water for industrial purposes to Bell Bay. Total income from the scheme during 1970-71 was \$341,000 which included sale of water to: (i) municipalities, \$210,000; (ii) industrial users, \$116,000; and (iii) wayside consumers, \$7,000. Total expenditure for the year amounted to \$315,000. At 30 June 1971 capital cost of the scheme amounted to \$3.66m. During 1970-71 the Commission investigated the possibility of adding to the scheme with a dam and ancillary plant at Pipers River or Curries Rivulet.

West Tamar Water Supply: This scheme was partially completed by the Beaconsfield Municipality but from 1 July 1960 the Rivers and Water Supply Commission assumed responsibility for operating the scheme. However, the local government authority retains primary responsibility for reticulation and sale of water to consumers, except for certain industrial users. The level of charges is determined by the Commission; Beaconsfield Municipality collects revenue on behalf of the Commission and is reimbursed by the Commission for expenditure incurred. The scheme serves the west shore of the Tamar located in the Beaconsfield Municipality. Total income from the scheme during 1970-71 was \$159,000 while expenses of the scheme were \$243,000. Capital cost of the scheme to 30 June 1971 was \$2.37m.

Prosser River Scheme

This scheme was originally designed to supply water to a sodium alginate industry at Louisville, on the east coast near Orford, and to supplement the water supply for the town of Orford in the Spring Bay Municipality. On 3 November 1970 an agreement was made with the Tasmanian Pulp and Forest Holdings to supply water to the Triabunna woodchip plant. Water for this purpose is obtained from a dam built on the Prosser River. Income for the year 1970-71 was \$29,000 while expenses of the scheme amounted to \$33,000. Capital cost of the Prosser River Scheme to 30 June 1971 amounted to \$417,000.

Municipal Waterworks and Sewerage Schemes

At 30 June 1971 water was connected to approximately 103,000 properties which consumed about 16,000m gallons during the year. In 1970-71 the receipts of all local government authorities for water supply totalled \$6.06m, their loan debt for construction purposes at 30 June 1971 standing at \$15.24m.

At 30 June 1971 sewerage services were connected to approximately 81,000 tenements of which about 57 per cent were connected to sewerage treatment plants. In 1970-71 the receipts of all local government authorities for sewerage services were \$3.05m, their loan debt for construction standing at \$22.57m.

Chapter 5

PUBLIC FINANCE

COMMONWEALTH AND STATE

Change in Relationship Since 1901

Prior to the establishment of the Commonwealth in 1901, the individual States exercised complete autonomy with respect to their raising of revenue and the manner in which this was spent. Due to developments since Federation, the States now have only limited ability to raise the money required for revenue and capital purposes. The Commonwealth Government has become almost the exclusive channel for loan funds for State purposes, and supplements State revenue by massive grants from its own funds. The emergence of the Commonwealth as the dominating influence in the financial transactions of the State Governments can be traced to three events:

- (i) under the Constitution the States surrendered the right to levy customs and excise duties, which passed exclusively to the Commonwealth;
- (ii) under the *Financial Agreement Act* 1927, the Commonwealth became the borrowing agent for the States; and
- (iii) during World War II, under the Uniform Tax Scheme, the Commonwealth became the sole authority levying taxes upon the income of persons and companies, a war-time measure which has continued to this day.

The result of these changed relationships can be summarised as follows: (i) the Commonwealth Government, as the channel for loan funds for State purposes, exercises a substantial degree of control over public investment; (ii) to carry out functions for which their revenue is entirely inadequate, the States have become heavily dependent on the Commonwealth Government for general and specific grants. The Commonwealth Government is therefore placed in a position to exercise a substantial degree of control over the ordinary public expenditure of the States.

Principal Activities of the States

The Federal Constitution lists the matters over which the Commonwealth Parliament has power to legislate. Some of these powers are given exclusively to the Commonwealth (e.g. defence, customs and excise) but, in many matters, the Commonwealth and State Governments have concurrent powers; Commonwealth law prevailing where there is conflict. Matters other than those listed in the Constitution remain the concern of the States. Principal government activity at State level embraces education, health and welfare services, the development of internal resources, land settlement, soil conservation, maintenance of law and order and the provision of public utility services such as roads, electricity, public transport and water supply. Such activities are undertaken either by State Departments or by statutory and local government bodies created under State legislation. The most obvious form of revenue for the discharge of these functions is State taxation but the Commonwealth exercises a practical monopoly over the more lucrative tax sources (e.g. customs and excise, income tax, sales tax). A responsibility therefore rests on the Commonwealth to supplement State revenues.

Commonwealth Payments To or For Tasmania

Summary of Commonwealth Payments

In the following sections, the main forms of Commonwealth assistance are described; the following table shows the total annual payments to Tasmania from the Commonwealth Consolidated Revenue Fund:

Commonwealth Consolidated Revenue Fund: Payments To or For Tasmania
(\$'000)

Item	1968-69	1969-70	1970-71
Financial Assistance Grants	42,209	48,514	67,088
Special Grants (Section 96)	16,810	21,900	13,680
Financial Agreement Payments—			
Interest on State Debts	534	534	534
Sinking Fund on State Debts	1,485	1,598	1,694
Debt Charges Assistance .. .. .	..	..	795
Universities, Capital and Maintenance	2,217	2,261	2,247
Colleges of Advanced Education	291	1,074	1,268
Teachers Colleges	960	250	100
Pre-School Teachers Colleges	100	120	..
School Libraries	72	140	480
Technical Training	275	376	325
Science Laboratories (Schools)	409	256	563
Independent Schools .. .. .	..	286	556
Research Grants	194	182	202
Tuberculosis Hospitals, Capital and Maintenance	353	367	347
Blood Transfusion Services	25	21	24
Mental Health Institutions	399	108	224
Assistance for Deserted Wives	67	77	188
Dwellings for Aged Pensioners .. .. .	..	100	158
Aboriginal Advancement	25	39	54
Commonwealth Aid for Roads	8,500	9,100	10,230
Farming Extension Services	228	226	314
Softwood Forestry	488	400	700
Hydro-Electricity	3,200	9,700	3,211
Water Resources Investigation	74	68	64
Natural Disaster Payments	1,195	73	284
Cressy-Longford Irrigation .. .. .	..	..	200
Miscellaneous	13	r 70	114
Total (a)	80,124	97,840	105,644

(a) This total cannot be identified as such in State accounts since part is taken into Consolidated Revenue, part into Loan Fund, and the balance into Trust and Special Funds.

Financial Assistance Grants

The (Federal) *States Grants (Income Tax Reimbursement) Act* 1942 provided for grants to the States as compensation for vacating the field of income tax. Various formulae have been employed to calculate each State's grant, the principles of the present system dating from 1959. These involved annually increasing the grant by taking account of three factors: (i) increased State population; (ii) increased average wages; and (iii) a constant 'betterment' multiplier. As from 1965-66, the betterment factor was fixed at 1.2 per cent.

The calculation of the Tasmanian grant for 1970-71 illustrates the application of the formula: (i) formula grant (1969-70) \$46,340,489; (ii) percentage increase in Tasmanian population in year 1970, 1.1305; (iii) percentage increase in wages per Australian employed (1970-71 over 1969-70) 9.8599106; (iv) betterment factor, 1.2 per cent.

Calculated grant (1970-71) =

$$\begin{aligned} & \$46,340,489 \times 1.011305 \times 1.098599106 \times 1.012 \\ & = \$52,102,975 \end{aligned}$$

The Commonwealth then added to the calculated grant a further \$14,984,866, comprising Receipts Duty compensation (\$1,340,000) and other supplements (\$13,644,866).

The following shows the amounts received as Financial Assistance Grants from 1953-54:

Financial Assistance Grants (a): Receipts by Tasmania
(\$)

Year	Amount	Year	Amount	Year	Amount
1953-54	9,663,204	1959-60	21,826,000	1965-66	32,130,632
1954-55	10,152,662	1960-61	23,960,360	1966-67 (b) ..	34,772,852
1955-56	10,704,450	1961-62	25,671,238	1967-68	37,968,098
1956-57	12,048,712	1962-63	26,616,104	1968-69 (b) ..	42,208,983
1957-58	13,435,384	1963-64	27,626,296	1969-70 (b) ..	48,514,433
1958-59	14,539,428	1964-65	29,297,286	1970-71 (c) ..	67,087,841

(a) Referred to as Tax Reimbursement Grants from 1942-43 to 1958-59. (Formula grants plus supplementary grants.)

(b) Calculated formula grant plus supplements.

(c) Calculated formula grant (\$52,102,975) plus special supplements (\$14,984,866).

The special supplements (\$14.98m) comprised: transfer of \$10.00m from the State's Special Grant; \$1.34m Receipts Duty compensation; two other grants of \$1.63m and \$2.02m. For 1971-72, the starting point for the formula grant calculation is estimated to be \$65.73m comprising: 1970-71 formula grant \$52.10m; transfer of \$10.00m from the State's Special Grant; and \$3.63m other supplements.

Special Grants (Section 96 of the Constitution)

Section 96 of the Constitution reads: 'During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit'.

The Commonwealth Grants Commission was established in 1933 and consists of three members on a part-time basis assisted by a full-time staff. In its third report (1936) it fixed upon the principle of financial need, which was expressed in the following terms: 'Special grants are justified when a State through financial stress from any cause is unable efficiently to discharge its functions as a member of the federation and should be determined by the amount of help found necessary to make it possible for that State by reasonable effort to function at a standard not appreciably below that of other States'. In arriving at its recommendations, the Commission each year makes a detailed comparison of the budget results of the claimant States with those of the non-claimant States.

Prior to the passage of the (Federal) *States Grants Act* 1959, the claimant States had been Tasmania, W.A. and S.A. The new formula evolved under the *States Grants Act* 1959 had been devised partly in reaction to a claim by Victoria and Queensland to be also considered as claimant States; in effect, the new scale of increased grants under this legislation resulted in the number of claimant States falling to two, W.A. and Tasmania. The Grants Commission could then have used the accounts of the four non-claimant States to reach a basis for comparison; it finally decided to adopt a two-State standard, based on the budgets of N.S.W. and Victoria. Recent developments have included: (i) the withdrawal of W.A. as a claimant State from 1968-69; (ii) the acceptance of S.A. as a claimant State from 1970-71; (iii) the acceptance of Queensland as a claimant State from 1971-72. In effect the pre-1959 situation with three claimant States has been restored with Queensland replacing W.A.

Since 1949-50, the Special Grant has been in two parts. One part is an advance to meet the estimated financial needs of the State during the current financial year and the other part is an adjustment (positive or negative), the magnitude of which depends on whether the advance

made two years earlier proved greater or smaller than the amount of financial assistance deemed justified by the Grants Commission. The Special Grant for 1971-72 was \$11m subject to a negative adjustment of \$3.2m on 1969-70 accounts.

The negative adjustment applied in 1971-72 meant that the Grants Commission considered its 1969-70 advance grants too high in the light of its critical examination, not only of the 1969-70 accounts of Tasmania, but also those of the standard States (N.S.W. and Victoria). The accounting principles followed by the Grants Commission are necessarily complicated and can be examined in the Annual Reports of that authority. It is sufficient to say that the existence of the Special Grant has exercised considerable influence on the financial policy of successive Tasmanian Governments. Two principles employed by the Grants Commission will serve to illustrate the nature of this influence:

- (i) if State taxation in a claimant State is below average rates and average exemption scales in the standard States, an unfavourable adjustment will result; and
- (ii) if State social service expenditure in a claimant State is above comparable per capita expenditure in the standard States (after allowing for certain difficulties encountered in the claimant State), an unfavourable adjustment will result.

Claimant States must endeavour to raise revenue from taxation at least at the rates and exemption scales adopted by the standard States and must not exceed the per capita expenditure of the standard States in certain fields. Departure from these standards can result in adverse Grant adjustments.

The following table shows Tasmanian Special Grant receipts:

Special Grant (Section 96): Receipts by Tasmania
('\$000)

Year	Advance Grant	Adjustment Assessed (a)	Adjustment Applied (b)	Actual Receipt (c)
1960-61	6,800	+ 282	+1,818	8,618
1961-62	8,200	+ 556	+1,950	10,150
1962-63	9,800	+ 982	+ 282	10,082
1963-64	10,200	+1,332	+ 556	10,756
1964-65	13,618	+1,166	+ 982	14,600
1965-66	16,400	+ 889	+1,332	17,732
1966-67	19,500	-1,190	+1,166	20,666
1967-68	19,000	- 100	+ 889	19,889
1968-69	18,000	+1,680	-1,190	16,810
1969-70	22,000	-3,200	- 100	21,900
1970-71	(d) 12,000		+1,680	(d) 13,680
1971-72	11,000		-3,200	7,800

(a) Assessment is shown against the year for which accounts have been examined by the Grants Commission, although its effect does not become apparent until two years later.

(b) The two-year delay in application is due to the Grants Commission's obligation to analyse the accounts of claimant and non-claimant States before announcing the adjustments.

(c) Advance grant plus or minus the adjustment applied.

(d) In 1970-71 the Commonwealth agreed to transfer \$10m from the Special Grant to the Financial Assistance Grant; hence the apparent reduction.

The treatment of Special Grant adjustments in Tasmanian accounts is as follows:

- (i) if a favourable adjustment is made, an equal amount is paid into a suspense account (Accumulated Revenue Account) and the Consolidated Revenue Fund records only the advance grant; and
- (ii) if an unfavourable adjustment is made, an equal amount is transferred from the suspense account (Accumulated Revenue Account) to the Consolidated Revenue Fund. Thus the Consolidated Revenue Fund again shows as a receipt the amount of the advance grant and not, as might be expected, the advance grant *less* the unfavourable adjustment.

In effect, the State Treasury carries forward, in the Accumulated Revenue Account, unadjusted budget surpluses and deficits until the Grants Commission announces a favourable or unfavourable adjustment; action can then be taken to charge the net adjusted deficit against the Loan Fund.

Payments Under the Financial Agreement (1927)

Under the Financial Agreement, which was entered into by the Commonwealth and the States in 1927, the Commonwealth contributes towards interest and sinking fund payments in respect of State debts existing at 30 June 1927, and towards sinking fund payments in respect of State debts incurred after that date for purposes other than the funding of revenue deficits.

The Commonwealth contribution towards payment of interest on the Tasmanian State debt is a constant annual sum of \$533,718 and will be continued until 1985.

The sinking fund contributions made by the Commonwealth under the Agreement in respect of State debts vary according to the date and nature of the borrowings. On State debts existing at 30 June 1927 the Commonwealth is making sinking fund contributions at the rate of 0.125 per cent a year until 1985 and in respect of cash loans raised for the States since that date, the Commonwealth makes sinking fund payments for 53 years at the annual rate of 0.25 per cent. Each State is obliged to make sinking fund payments for corresponding periods at the rate of 0.25 per cent per annum regardless of the date on which the debt was incurred. The only exception is in relation to debt incurred for the purpose of funding revenue deficits. In these instances, the Commonwealth makes no sinking fund contributions and the States are obliged to make annual contributions to the sinking fund of not less than four per cent. However, in respect of Treasury Bills issued to cover States revenue deficits accruing between July 1927 and June 1935, special arrangements were made under which the Commonwealth contributes 0.25 per cent per annum on the amount outstanding until June 1983.

Recent Commonwealth sinking fund contributions in respect of the Tasmanian public debt are shown in the following table:

Commonwealth Contributions to State Sinking Fund
('\$000)

Year	Amount	Year	Amount
1961-62	896	1966-67	1,293
1962-63	972	1967-68	1,398
1963-64	1,062	1968-69	1,485
1964-65	1,129	1969-70	1,598
1965-66	1,212	1970-71	1,697

The acceptance of some Commonwealth liability for interest and sinking fund payments on State debts was only one part of a more extensive agreement setting up an Australian Loan Council and a National Debt Sinking Fund. The raising of loan money for the States under the Agreement is described later in this Chapter.

New Assistance for Debt Charges

At the 1970 February Premiers' Conference, the Commonwealth announced that it was prepared to take over State debt totalling \$1,000m during the five-year period 1970-71 to 1974-75. However, this would have necessitated amendments to the *Financial Agreement Act* 1927 and caused considerable delay. The Commonwealth then proposed an alternative which involved grants to the States equal to interest on specific parcels of State debt. The distribution between the States will be in proportion to Commonwealth Securities on issue on behalf of each State at 30 June 1970. Tasmania's estimated receipts under this scheme are (in \$m): 1970-71, 0.8; 1971-72, 1.6; 1972-73, 2.4; 1973-74, 3.2; and 1974-75, 3.9. It is intended to amend the *Financial Agreement Act* 1927 by 30 June 1975 and formally transfer the \$1,000m of State debt to the Commonwealth.

Grants for Capital Purposes

To assist the States in meeting their capital works programme during the period 1970-71 to 1974-75 the Commonwealth will make available grants for the provision of non-productive capital works. In 1970-71 the total amount of the grant was \$200m, the States' total approved works and housing programmes amounting to \$823m. The grant will increase in the next four years in proportion to growth of the States' approved capital works programmes. In effect the Commonwealth will meet 24.3 per cent of the total State works programme during the five-year period.

Distribution of the grants is determined by agreement between States or decided by the Commonwealth if the States are unable to reach agreement. Tasmania's share of the 1970-71 grant was \$13.98m which was credited to the State Loan Fund. During 1971-72 the State Government expected to receive \$14.66m in grants for capital works. This compares with an estimated \$37.44m to be borrowed for capital works on behalf of Tasmania.

The provision of these grants reduces the amount which the State needs to borrow in order to carry out its capital works programme. The result of this decrease in the amount borrowed means that the burden of debt charges (interest payments and sinking fund contributions) on the Consolidated Revenue Fund is reduced.

Commonwealth Aid for Roads

The Federal *Main Roads Development Act* 1923 provided for annual Commonwealth contributions to the States, the basis of distribution being a formula weighted 40 per cent according to State area and 60 per cent according to State population. This basis was explicitly expressed in the *Federal Aid Roads Act* 1926 and continued to operate until 1959-60.

A new formula for distribution was embodied in the *Commonwealth Aid Roads Act* 1959 when the Commonwealth undertook to provide a total sum of \$500m over a five-year period. Of this amount, \$440m represented basic grants, and the remaining sum of up to \$60m was, subject to certain annual limits, payable to the States on the basis of \$1 for each \$1 allocated by the State Governments from their own resources for expenditure on roads over and above the amounts allocated by them for roads expenditure in 1958-59.

The amounts being made available by the Commonwealth were distributed between the States in each year in the proportion of five per cent of the total for Tasmania, and the balance shared between the other five States on the basis of one-third according to Census population, one-third according to area and one-third according to vehicles registered at 31 December preceding the year concerned. It will be observed that Tasmania, with less than one per cent of the area of the Commonwealth, was specifically exempted from the operation of the formula applied to the other States.

The *Commonwealth Aid Roads Act* 1964 contained provision for a second five-year plan but the total distribution over this period was raised to an amount of \$750m. A third five-year plan, based upon a distribution of \$1,252m is embodied in the *Commonwealth Aid Roads Act* 1969. Of this amount \$1,200m is divided between the States according to a new formula which includes characteristics of the old formula and a scheduling formula suggested in a Bureau of Roads Report. The remaining \$52m is distributed thus: W.A., \$40.8m; S.A. \$9m; and Tasmania, \$2.25m. Tasmania's total receipts under the new five-year plan will be \$56.25m. The 1969 Act specifies that 50.06 per cent of the Commonwealth grant to a State is to be spent on urban roads; 15.56 per cent on main trunk roads; 32.88 per cent on other rural roads; and 1.5 per cent on planning and research. To qualify for a specified part of the total grant, each State, during the five-year period, is required to increase its expenditure on the roads from its own resources above a base-year level at the same rate as the number of motor vehicles on register in the State increases.

The method of allocating road grants, outlined above, became operative from 1 July 1969.



Dove Lake, Cradle Mountain in background

[Dept of Film Production]



Hastings Caves, southern Tasmania

[Dept of Film Production]



Sheep grazing in Tasmanian midlands

[Don Stephens]



Throwing a fleece prior to skirting

Details of Tasmanian receipts of Commonwealth contributions in respect of road expenditure are shown in the following table:

Commonwealth Aid for Roads: Receipts by Tasmania
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1953-54	1,646	1959-60	(a) 4,366	1965-66	7,000
1954-55	2,334	1960-61	4,600	1966-67	7,500
1955-56	2,652	1961-62	5,000	1967-68	8,000
1956-57	3,126	1962-63	5,400	1968-69	8,500
1957-58	3,466	1963-64	5,800	1969-70	9,100
1958-59	3,624	1964-65	6,500	1970-71	10,230

(a) Payment under the *Commonwealth Aid Roads Act* 1959 was \$4.2m; the balance represents a final adjustment of Commonwealth commitments under previous legislation.

State Revenue Raising Difficulties

Introduction

The financial relationships described in the opening section of this Chapter have at times caused difficulties for individual States, especially when there has been an urgent need to increase revenue. In these circumstances, the complaint has been that the Commonwealth exercises a practical monopoly over the best 'growth' taxes and that, because of this, the States lack budget flexibility.

This section deals with: (i) a legal challenge to uniform income tax; (ii) the imposition and abandonment of States' receipts taxes; (iii) an attempt by a State to avoid paying Commonwealth pay-roll tax; and (iv) the transferring of pay-roll tax from the Commonwealth to the States. These four events may all be related to the general problem of Commonwealth-State financial relationships.

Uniform Income Taxation

In December 1955, the Victorian Government took out a writ in the High Court challenging the validity of the uniform income tax legislation, the Commonwealth having been the sole collector of income tax since World War II. In particular, Victoria disputed the power of the Commonwealth to make tax reimbursement grants conditional upon the States not levying income tax. In November 1956, the New South Wales Government intervened to support Victoria's challenge. However, the High Court in August 1957 ruled unanimously that the condition attaching to tax reimbursement grants (i.e. that a State should not levy income tax) was valid. This meant that any State wishing to levy income tax would be obliged to negotiate a special agreement with the Commonwealth; to tax incomes without such agreement would place the State's tax reimbursement grant in jeopardy.

Stamp Duty Legislation

From 1 February 1968, Victoria levied a stamp duty of one cent per \$10 on receipts (including wages and salaries in excess of \$20 per week). By 1969, some form of receipts tax was being levied by all States except Queensland although in Tasmania it was not applied to wages and salaries. In 1969 Hammersley Iron Pty Ltd challenged the validity of the West Australian receipts tax. The High Court, in its decision of 19 February 1970, ruled that the tax was a form of excise duty and therefore invalid. The Prime Minister then announced that the Commonwealth would collect the receipts tax on behalf of the States. A bill for this purpose was passed by the House of Representatives but defeated in the Senate. On 8 October 1970, the Prime Minister announced that the Commonwealth would make special grants to compensate the States for the loss of revenue and legislation was introduced to validate the collection of the receipts tax for the period 17 November 1969 to 30 September 1970. The legislation was passed by the Senate on 20 November 1970.

Pay-Roll Tax Challenge

In his 1970-71 Budget, the Victorian Premier and Treasurer, Sir Henry Bolte, did not make any appropriations for Commonwealth pay-roll tax. He then challenged the Commonwealth's power to levy pay-roll tax on State Governments. The full Commonwealth High Court handed down its decision on 14 May 1971 ruling that the Commonwealth was entitled to levy pay-roll tax on State Governments.

Growth Tax for the State

Increasing budgetary difficulties in recent years led to pressure from the State Premiers for access to a growth tax, preferably re-entry into the field of income taxation. The initial attempts involved the levy of a receipts duty tax (see earlier section '*Stamp Duty Legislation*'). At the June 1971 Premiers' Conference the Prime Minister refused to give the States access to the field of income taxation, however, he did offer to hand over pay-roll tax to the States. The proposal put forward was that the States would receive receipts from pay-roll tax but the amounts received would be deducted from the States' financial assistance grants. The Premiers unanimously rejected this proposal. After discussion the State Premiers agreed to take over pay-roll tax and have a matching reduction in the formula base for their financial assistance grants, subject to the following conditions:

- (i) The Commonwealth would give the States a non-recurring special financial assistance grant totalling \$40m during 1971-72; Tasmania's share was \$1.9m.
- (ii) The States, by a variation of the formula grants in the period 1971-72 to 1974-75, were to receive approximately an extra \$100m.
- (iii) The Commonwealth agreed to bear the full cost resulting from the exemption from pay-roll tax of certain areas of local government.

The State Premiers decided to raise the pay-roll tax rate from 2½ per cent to 3½ per cent. The total expected receipts which will accrue to the States from pay-roll tax during 1971-72 are \$290m, with Tasmania's share estimated at \$8.35m.

Loan Council (Financial Agreement)

The original Financial Agreement was made on 12 December 1927, but Tasmania did not become a party to it until 1 July 1928. The basic intention of the agreement was a co-ordinated approach to the loan market, the establishment of sound sinking fund arrangements and the sharing of State debt charges by the Commonwealth. The main provisions are summarised as follows:

- (i) The Commonwealth assumed certain liabilities in respect of State debts (see previous section on interest and sinking fund payments made by the Commonwealth in respect of Tasmanian State Debt—'*Payments Under the Financial Agreement 1927*').
- (ii) The Australian Loan Council was set up to co-ordinate the public borrowings of the Commonwealth and the States. It consists of the Prime Minister (or his nominee) as Chairman, and the State Premiers (or their nominees). Each financial year the Commonwealth and the States submit programmes to the Loan Council setting out the amounts they desire to raise by loan during the next year. Revenue deficits to be funded are included in the borrowing programmes but borrowing by the Commonwealth for defence purposes is excluded from the terms of the agreement.

If the Loan Council decides that the total amount of the loan programmes for the year cannot be borrowed at reasonable rates and conditions, it then decides the amount which shall be borrowed and may, by unanimous decision, allocate that amount between the Commonwealth and the States. In default of a unanimous decision, the Commonwealth is entitled to one-fifth of the total amount to be borrowed and each State to a proportion of the remainder equal to the ratio of its net loan expenditure in the preceding five years to the net loan expenditure of all States during the same period.

Subject to the decisions of the Loan Council, the Commonwealth arranges all borrowings, including those for conversions, renewals and redemptions. However, the Commonwealth or a State may borrow for 'temporary purposes' by way of overdraft or fixed deposit, subject to limits fixed by the Loan Council. In addition, the Commonwealth may borrow within the Commonwealth, or a State within its own territory, from authorities, bodies, institutions, or from the public by counter sales of securities, subject to Loan Council approval. Commonwealth securities are issued for money borrowed in this way and amounts so borrowed are treated as part of the borrowing programme for the year.

- (iii) The Agreement involved setting up a National Debt Commission to administer one consolidated sinking fund in respect of the debt of the Commonwealth and the States. Sinking fund moneys are used to redeem unconverted securities at maturity and to re-purchase securities on the stock market.
- (iv) It was realised at the inception of the Loan Council that, in the interests of co-ordinated borrowing, the Council should be advised of borrowings of large amounts by semi-government authorities (such loan raisings do not form part of State or Commonwealth debt and therefore are not within the scope of the original agreement). A set of rules evolved in 1936 is regarded as the 'Gentlemen's Agreement' and makes provision for the submission to the Council of annual loan programmes in respect of larger semi-government and local government authorities (in conjunction with the loan programmes of the governments concerned) and for the fixing of the terms of individual loans coming within the scope of the annual programme. From 1967-68 larger authorities have been those semi-government and local government authorities borrowing more than \$300,000 in a year. (For 1971-72 borrowings approved by the Loan Council for Tasmanian semi-government and local government authorities amounted to \$14,730,000.)

It should be emphasised that the Australian Loan Council does not itself raise money for Tasmanian semi-government and local government authorities; its concern is to assess the total impact of government borrowing for the year and then to fix ceilings for semi-government and local government authorities in the interests of a co-ordinated programme.

Money made available from the Commonwealth Loan Fund to the State of Tasmania is recorded in two State funds, namely:

- (i) the Loan Fund, to which are paid the receipts of new cash borrowings but not allocations under the Commonwealth and State Housing Agreement; and
- (ii) the Trust and Special Funds, to which are paid the allocations for housing made under the Agreement.

The following table shows Loan Council borrowing programmes undertaken on behalf of the State of Tasmania:

Tasmania: New Cash Borrowings Authorised by Australian Loan Council (a)
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1953-54	28,900	1959-60	27,080	1965-66	34,834
1954-55	25,920	1960-61	28,388	1966-67	37,580
1955-56	26,800	1961-62	28,996	1967-68	40,610
1956-57	22,800	1962-63	30,708	1968-69	42,120
1957-58	24,200	1963-64	32,020	1969-70	45,370
1958-59	25,180	1964-65	34,136	1970-71	(b) 34,570

(a) For State works programmes; amounts credited to State Loan Fund.

(b) Commencing in 1970-71 the Commonwealth provided a capital grant to replace some amounts which would otherwise have been obtained as loan borrowings; hence the reduced amount in 1970-71.

The previous table excludes allocations under the Commonwealth and State Housing Agreements, which are also part of the Loan Council's programme. The following table shows allocations to Tasmania for housing purposes:

Tasmania: Allocations Under Commonwealth and State Housing Agreements (a)
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1956-57	4,000	1961-62	5,856	1966-67	7,500
1957-58	4,000	1962-63	5,200	1967-68	6,700
1958-59	4,400	1963-64	6,000	1968-69	7,500
1959-60	3,900	1964-65	6,400	1969-70	7,600
1960-61	4,000	1965-66	7,448	1970-71	8,750

(a) For housing; credited to State Trust Funds.

STATE FINANCIAL TRANSACTIONS

Tasmanian Public Account

The State Public Account includes the Consolidated Revenue Fund, the Trust and Special Funds, and the Loan Fund. Ordinary revenues from taxation and other sources are paid into the Consolidated Revenue Fund from which the main expenditures are for public debt charges, education, development of State resources, health and hospitals, general administration, subsidies to State business undertakings, law and order, and certain welfare activities. The Trust and Special Funds cover special transactions outside the ordinary operations of departmental expenditure, such as funds from the Commonwealth for specific purposes and moneys held for expenditure by the State at some future time. The Loan Fund receives its funds from public borrowings and grants, and the main expenditure is on State public works and on advances to State business undertakings.

A summary of transactions on the Tasmanian Public Account for a three-year period is given in the following table:

Public Account: Summary of Transactions
(\$'000)

Particulars	1968-69	1969-70	1970-71
Cash and Investments at Beginning of Year	5,947	5,261	9,972
Receipts—			
Consolidated Revenue Fund	107,846	123,819	138,229
Special Grant Adjustment	—1,190	—100	1,680
Borrowings for New Capital Purposes	42,141	45,370	34,576
Other Loan Fund Receipts	4,294	4,342	18,666
Net Increase, Trust and Special Funds	367	1,597	—1,085
Total	153,457	175,027	192,066
Expenditure—			
Consolidated Revenue Fund	111,540	121,004	138,207
Loan Fund, Public Works and Purposes	42,582	49,312	51,891
Discount	21	..	6
Total	154,143	170,316	190,103
Cash and Investments at End of Year	5,261	9,972	11,934

The State Public Account is a complete record of the Government's operation of three specific funds, i.e. Consolidated Revenue, the Trust and Special Funds, and the Loan Fund. It is by no means a complete record of government activity, since statutory authorities and semi-government authorities such as the Hydro-Electric Commission, Transport Commission and Agricultural Bank carry on financial operations which are not recorded in the State Public Account. In a later section of this Chapter, there appears the heading '*Exclusions from Consolidated Revenue*' and this lists the relationship between the finances of the principal authorities and the Consolidated Revenue Fund; the general principle is that gross receipts and expenditure of the authorities are excluded from the Consolidated Revenue Fund.

In the following table are shown the balances credited to each fund constituting the Public Account and the form in which the balances are held:

Public Account: Summary of Balances at 30 June
(\$'000)

Year	Balance				Location			
	Accumulated Revenue Account	Loan Fund	Trust and Special Funds	Total	Cash in Treasury or Bank	Advanced to Departments	Govt and Other Securities (a)	Total
1967	-2,593	2,743	8,698	8,848	6,413	750	1,684	8,848
1968	-2,423	1,285	7,085	5,947	4,602	763	582	5,947
1969	-5,545	3,354	7,452	5,261	3,831	768	662	5,261
1970	-2,830	3,754	9,048	9,972	3,257	773	5,942	9,972
1971	-1,128	5,099	7,963	11,934	3,541	993	7,400	11,934

(a) Includes fixed deposits.

In the previous table, 'Accumulated Revenue Account' is a suspense account recording accumulated surpluses and deficits in the Consolidated Revenue Fund, and also the funding of deficits. Details of the account are as follows:

Accumulated Revenue Account: Summary of Transactions
(\$'000)

Year	Opening Balance	Transactions			Closing Balance
		Budget Result, Consolidated Revenue	Special Grant Adjustment (a)	Deficits Charged to Loan Fund	
1966-67	-3,493	- 572	+1,166	+ 306	-2,593
1967-68	-2,593	-1,851	+ 889	+1,132	-2,423
1968-69	-2,423	-3,695	-1,190	+1,762	-5,545
1969-70	-5,545	+2,815	- 100	..	-2,830
1970-71	-2,830	+ 22	+1,680	..	-1,128

(a) It is Tasmanian Treasury practice to record Special Grant adjustments in the Accumulated Revenue Account and to include, in published Consolidated Revenue receipts, only the advance grant as determined by the Commonwealth Grants Commission.

In the following section dealing with Consolidated Revenue, Treasury practice of eliminating Special Grant adjustments from Consolidated Revenue total receipts has been followed.

Consolidated Revenue Fund

General

The financial transactions of the State of Tasmania are recorded under: (i) Consolidated Revenue; (ii) Trust Funds; and (iii) Loan Fund.

Payments from Consolidated Revenue are made only on the basis of authority found in: (i) the annual Appropriation Act of the Parliament; (ii) Acts of the Parliament made in previous years and under which certain annual payments are classified as 'reserved by law'; and (iii) the *Public Account Act* 1957 (as amended in 1962) and the *Audit Act* 1918.

The third category of authority listed above is designed to give the Treasurer and the Government some flexibility in public expenditure since the Appropriation Act cannot be expected to anticipate, to the nearest dollar, the expenses that are likely to be incurred for each and every item. The relevant sections of the amended *Public Account Act* are 5A and 5B which provide that, in relation to Consolidated Revenue, the Treasurer may authorise transfers between votes within certain subdivisions of the appropriation and, on the authority of the Governor, supplement certain appropriations and provide funds to meet expenditure for which no other provision exists. Transfers, as described under 5A, are a matter for the Treasurer but additional expenditure, as described under 5B, needs ratification by Parliament before the close of the following financial year. Regulations 20 and 21 of the second schedule of the *Audit Act* provide for expenditure by the Treasurer to meet emergencies for which no vote exists; the Governor must first authorise such expenditure and the Auditor-General investigate the circumstances before payment can be made.

Exclusions from Consolidated Revenue

It should be observed that the Consolidated Revenue Fund does not include the complete revenue and expenditure in respect of all activities undertaken or authorised by the State Government: (i) some moneys are paid into State Trust Funds and some payments are made from such funds, e.g. the Commonwealth Aid Roads Grant is paid into the State Highways Trust Fund; (ii) the gross receipts and payments of a number of State business undertakings and State authorities are excluded from the Consolidated Revenue Fund, their relation to the Fund being as follows:

- (a) In Tasmania, the railways (in common with Government shipping services) are administered by the Transport Commission and, since 1939-40, only the *net* losses of this authority have been met from the Consolidated Revenue Fund. Annual payment of debt charges (interest and sinking fund contributions) on advances made by the Government is credited to the Consolidated Revenue Fund.
- (b) Omnibus services in Hobart, Launceston and Burnie are operated by the Metropolitan Transport Trust. The *net* annual loss of the authority is a charge against Consolidated Revenue. Annual payment of debt charges on Government advances is credited to the Fund.
- (c) The gross receipts and expenditure of the Hydro-Electric Commission are excluded from the Consolidated Revenue Fund which is credited with annual payment of debt charges by the Commission. Net profit or loss on the Commission's activities is carried forward in the authority's own suspense account and has no effect on Consolidated Revenue.
- (d) Also excluded from the Consolidated Revenue Fund are the gross receipts and payments of: regional water schemes, Government Printing Office, Government Insurance Office, Public Trustee, State housing authorities, Closer Settlement, Rural Credits and other activities of the Agricultural Bank, etc. In accordance with various Acts, it is usual for the net profits or losses of the previous year to be paid to or from the Consolidated Revenue Fund for the current year. Debt charges on government money loaned to the authorities are paid to Consolidated Revenue.

Consolidated Revenue Fund—Summary

The following table shows the Consolidated Revenue and Expenditure of Tasmania, the surplus or deficit, and the aggregate deficit at the end of each year. It also calls attention to the Special Grant adjustments and shows how these Commonwealth payments modify the original budget result.

Consolidated Revenue Fund: Surpluses and Deficits
(*\$'000*)

Year	Revenue			Expenditure	Budget Result		Aggregate Net Deficit at End of Year
	Before Adjustment	Special Grant Adjustment	After Adjustment		Before Adjustment	After Adjustment	
1960-61 ..	53,772	+ 282	54,054	54,166	— 394	— 112	11,332
1961-62 ..	60,636	+ 556	61,192	61,352	— 716	— 160	11,492
1962-63 ..	63,036	+ 982	64,018	64,020	— 983	— 1	11,493
1963-64 ..	67,836	+ 1,332	69,167	69,020	— 1,185	+ 147	11,346
1964-65 ..	74,846	+ 1,166	76,012	76,465	— 1,618	— 452	11,799
1965-66 ..	83,564	+ 889	84,453	85,585	— 2,021	— 1,132	12,931
1966-67 ..	92,676	— 1,190	91,486	93,248	— 572	+ 1,762	14,693
1967-68 ..	100,563	— 100	100,463	102,413	— 1,851	— 1,951	16,644
1968-69 ..	107,846	+ 1,680	109,526	111,540	— 3,695	— 2,015	18,659
1969-70 ..	123,819	(a)	(a)	121,004	+ 2,815	(a)	15,844
1970-71 ..	138,229	(b)	(b)	138,207	+ 22	(b)	15,821

(a) Negative adjustment of \$3,200,000 will be applied in 1971-72.

(b) Adjustment not yet determined but will be taken into account in 1972-73.

Deficit Funding

In the previous table, the original budget result is treated as provisional because the Grants Commission's adjustment is used to amend the original surplus or deficit and also the aggregate deficit. The Tasmanian Government refrains from immediately charging revenue deficits against the Loan Fund since the precise amount of the final deficit is not known until the Commission's adjustment is taken into account two years later. While the aggregate of all deficits at 30 June 1971 was \$15,821,000, the sum of \$14,693,000 has been charged against the loan fund as 'revenue deficits funded': thus the unfunded aggregate deficit is only \$1,128,000 carried as a negative balance in the accumulated revenue account.

Consolidated Revenue Fund—Receipts

The following table shows Tasmanian Consolidated Revenue receipts for a three-year period:

Consolidated Revenue Fund: Receipts
(*\$'000*)

Item	1968-69	1969-70	1970-71
Commonwealth Grants—			
Financial Agreement	534	534	534
Financial Assistance	42,209	48,504	(a) 67,088
Special	16,810	21,900	(a) 13,680
Debt Charges Assistance .. .. .	..	..	795
Total	59,553	70,938	82,096
Debt Charge Recoveries (b)—			
Interest	18,177	19,732	21,770
Sinking Fund	2,287	2,476	2,625
Total	20,464	22,208	24,395

Consolidated Revenue Fund: Receipts—continued
(\\$'000)

Item	1968-69	1969-70	1970-71
State Taxation (c)	17,951	20,181	21,012
Lands and Forests—			
Forestry	1,598	1,653	1,815
Other Rents, Sales, etc.	332	339	372
Total	1,930	1,992	2,187
Semi-Government Authorities	331	310	401
Departmental Revenue, Fees, Rents, etc.	4,927	6,510	7,979
Victorian Lotteries Agreement	142	116	196
Commonwealth National Welfare Fund	1,358	1,463	1,643
Total Actual Receipts	106,656	123,719	139,909
Transfer, Accumulated Revenue Account (d)	+1,190	+100	—1,680
Grand Total	107,846	123,819	138,229

(a) In 1970-71, the Commonwealth agreed to transfer \$10m from the Special Grant to the Financial Assistance Grant.

(b) Mainly on advances made to semi-government authorities.

(c) See later section, 'State Taxation'.

(d) Special Grant adjustments: if sign positive, transfer is from suspense; if negative, transfer is to suspense.

The relative importance of the various components of the Consolidated Revenue Fund can be assessed by expressing them on a per capita basis using the State mean population for the relevant financial year.

Consolidated Revenue Fund: Receipts Per Head of Population
(\\$)

Item	1968-69 ^r	1969-70 ^r	1970-71
Commonwealth Grants	155.7	183.7	210.9
Debt Charge Recoveries	53.5	57.5	62.7
State Taxation	46.9	52.3	54.0
Lands and Forests	5.0	5.2	5.6
Semi-Government Authorities	0.9	0.8	1.0
Departmental Revenue, Fees, Rents, etc.	12.9	16.9	20.5
Victorian Lotteries Agreement	0.4	0.3	0.5
Commonwealth National Welfare Fund	3.6	3.8	4.2
Transfer, Accumulated Revenue Account	3.1	0.3	—4.3
Total	282.0	320.5	355.1

Debt Charge Recoveries

After Commonwealth Grants, debt charge recoveries is the next most important item in Consolidated Revenue. The following table shows details of the payments of interest and sinking fund made by various authorities on advances which have been made to them by the State Government; since the advances have been made primarily from State loan borrowings, the Government has accepted an annual liability for debt charges (in respect of these authorities) approximately equal to the recoveries shown.

Debt Charge Recoveries: Consolidated Revenue Fund
(**\$'000**)

Source of Recovery	Interest			Sinking Fund Contributions		
	1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
Transport Commission	1,085	1,100	1,304	162	169	163
Metropolitan Transport Trust	132	133	137	19	20	20
Hydro-Electric Commission	13,649	14,868	16,340	1,817	1,984	2,130
Regional Water Supplies	913	944	982	118	128	131
Government Printing Office	22	21	20	3	3	3
King Island Abattoirs	17	18	18	3	3	3
Tasmanian Grain Elevators	43	41	40	9	9	9
Aluminium Industry Agreement	131	178	153	..	..	..
Closer Settlement	73	79	83	..	..	..
Returned Soldiers Settlement	18	18	17	..	..	..
Homes Act Advances	48	51	44	..	..	..
Homes Construction (Housing Department)	798	791	773	153	157	163
State Advances, Primary Producers	206	218	229	..	..	..
Loans to Local Bodies	63	61	56	..	..	..
Tourist Accommodation Loans	80	86	101	..	..	..
Loans to Industry	256	412	336	..	..	..
Iron Ore (Savage River Agreement Act)	228	222	215	..	..	..
Forestry Department	314	350	392	..	..	..
Flood Relief Act	9	8	6	..	..	..
Other	92	135	527	2	2	2
Total	18,177	19,732	21,770	2,287	2,476	2,625

State Taxation

In 1970-71 in Tasmania the chief State taxes, in order of importance, were motor taxes; stamp duties (on cheques, legal documents, etc.); probate and succession duties; and land tax. Pay-roll tax which was handed over to the State by the Commonwealth for the 1971-72 financial year has now become the largest single source of State tax revenue.

In the following tables, the figures shown for total taxes paid to Consolidated Revenue do not agree with those published by the State Treasurer. Excluded are amounts received from the Victorian Government under the Victorian Lotteries Agreement while 'Motor Taxes' include amounts not treated as taxes by the State Treasurer. The following table gives a summary, for a three-year period, of State taxation taken into the Consolidated Revenue Fund:

State Taxation Collections Paid into Consolidated Revenue
(**\$'000**)

Tax or Licence	1968-69	1969-70	1970-71
Probate and Succession Duties	3,029	3,263	3,065
Stamp Duties (a)	4,197	5,411	5,305
Land Tax	2,352	2,633	2,851
Liquor Tax and Licences	1,072	1,135	1,266
Racing Taxes	826	883	1,079
Motor Taxes (b)	6,368	6,718	7,312
Entertainment Tax	73	89	90
Other Licences	35	48	44
Total (c)	17,951	20,181	21,012

(a) Excludes: (i) stamp duties on bookmakers' tickets (included in 'Racing Taxes'); (ii) stamp duty on third party insurance (included in 'Motor Taxes'); and (iii) stamp duty on motor vehicle registrations (included in 'Motor Taxes').

(b) See following section 'Motor Taxes'.

(c) Excluded are the following amounts received from the Victorian Government under the Victorian Lotteries Agreement: 1968-69, \$141,624; 1969-70, \$116,196; 1970-71 \$196,038.

Motor Taxes: In the preceding table motor taxes are shown as \$7,312,000 for year 1970-71. The next table shows how this figure can be reconciled with motor tax figures published by the State Treasurer:

Motor Taxes (a) Paid to Consolidated Revenue Fund, 1970-71
('\$000)

Item	Amount
Motor Taxes	7,312
Less Stamp Duty on—Vehicle Registration (b)	388
Third Party Insurance (b)	315
Traffic Fees (c) Paid to—Police Department	530
Consolidated Revenue Fund	1,046
	<hr/>
'Motor Tax' as published by State Treasurer	5,033

(a) See preceding table 'State Taxation Collections Paid into Consolidated Revenue Fund'.

(b) Treated as 'stamp duty tax' items by the State Treasurer.

(c) Includes motor vehicle registration fees, drivers' licences, charges for number plates, transfer of ownership fees and learners' permits.

Not all State taxation is paid into the Consolidated Revenue Fund, as shown in the following table:

State Taxation Collections Paid to Special Funds
('\$000)

Particulars	1968-69	1969-70	1970-71
Motor Taxation—			
Retained by Transport Commission	77	80	80
Racing Taxation—			
Paid to Racing Clubs and Racing Commission	487	525	430
Insurance Companies—			
Contributions to Fire Authorities	661	666	736
Total	1,225	1,271	1,246

The following summarises total taxation collected by the State:

Total State Taxation Collections (a)
('\$000)

Particulars	1968-69	1969-70	1970-71
Paid into—Consolidated Revenue	17,951	20,181	21,012
Special Funds	1,225	1,271	1,246
Adjustment (b) .. .. .	..	..	-26
Total	19,176	21,453	22,231

(a) Taxation is described more fully in a subsequent section, 'Taxation in Tasmania'.

(b) Caused by changes during 1970-71 in the method of recording the receipt of Racing Tax into Consolidated Revenue.

Consolidated Revenue Fund—Expenditure

In the following table a summary is given of the principal items of Consolidated Revenue Fund expenditure classified according to function:

Consolidated Revenue Fund: Expenditure by Function (a)
(\$'000)

Classification by Function	1968-69	1969-70	1970-71
Law, Order and Public Safety—			
Administration of Justice	1,158	1,338	1,631
Police	3,775	4,156	4,989
Prisons	824	866	996
Custody and Care of Delinquent Children	187	199	227
Fire Brigades	451	466	477
Other	30	58	132
Total	6,426	7,083	8,451
Education—			
Teacher Training	1,800	2,099	2,725
Primary (b)	8,143	9,275	11,391
Secondary	8,809	9,922	12,291
Tertiary—			
Technical	1,129	1,215	1,411
University	1,788	2,037	2,260
Advanced	583	716	1,014
Other (incl. Administration of Education Dept)	3,121	3,553	4,118
Total	25,373	28,818	35,210
Public Health—			
Mental Hospitals	2,198	2,185	2,505
T.B. Sanatoria	211	218	240
Other Hospitals (excl. Repatriation)	7,745	9,190	10,470
Maternal and Infant Health Centres	270	300	341
School Children (incl. Free Milk)	657	684	787
Other	1,735	1,914	2,422
Total	12,817	14,491	16,765
Welfare—			
Child Welfare (incl. Administration)	393	538	514
Relief of Destitute, Aged and Incapacitated	2,026	2,116	2,670
Other (incl. Disaster Relief)	266	256	425
Total	2,685	2,909	3,609
Development and Conservation of National Resources and Assistance to Industries—			
Agricultural, Pastoral and Dairying	3,132	3,333	4,025
Forestry	1,603	1,598	1,653
Mines and Minerals	648	673	794
Water Supplies	850	896	967
Fisheries and Game	144	291	329
Secondary Industries	161	193	154
Land Administration—			
Soldier Settlement (c)	2,313	2,310	125
Other	628	687	854
Other	881	988	1,222
Total	10,361	10,970	10,122
Transport and Communication—			
Bus Services	1,030	1,011	1,418
Roads and Bridges	4,670	4,877	5,134
Railways and Other Services	3,969	(d) 1,685	4,113
Total	9,669	7,574	10,665
Legislature—			
Governor's Establishment	124	146	158
Parliament (incl. Committees)	783	822	996
Other	181	86	103
Total	1,088	1,055	1,258

Consolidated Revenue Fund: Expenditure by Function—(a) continued
(*\$'000*)

Classification by Function	1968-69	1969-70	1970-71
General Administration Services n.e.i.—			
Public Service Administration	341	392	476
Public Works Administration	2,839	3,219	3,877
Other	3,273	3,768	4,591
Total	6,452	7,379	8,943
Regulation of Trade and Industry and Industrial Safety ..	461	484	618
Housing	254	297	393
Insurance	55	69	48
Cultural and Recreational—			
Public Libraries, Museums and Art Galleries ..	798	860	1,032
Other (incl. Parks, Gardens, Reserves, Sports Grounds)	332	386	551
Total	1,131	1,246	1,583
Services n.e.i.	167	243	234
Debt Services n.e.i. (State)—			
Interest and Exchange	28,146	31,556	32,873
Sinking Fund and Redemption	4,524	4,862	5,264
Loan Management	253	236	379
Total	32,923	36,653	38,516
Superannuation n.e.i.	1,324	1,414	1,585
All Other	356	318	207
Total Expenditure	111,540	121,004	138,207

(a) Based on Commonwealth code developed for analysis of government sector accounts.

(b) Includes special schools for handicapped children.

(c) The State's final contribution towards valuation losses on properties was made in 1969-70.

(d) Part of the Transport Commission deficit was financed from Loan Fund with resulting decrease in contribution from Consolidated Revenue.

Public Debt Charges

This is the largest item of expenditure but a high proportion is recovered from semi-government authorities. Interest and sinking fund contributions differ from those shown in the previous table: in the table below, interest on repurchased securities is included in Sinking Fund (but in the previous table included under Interest and Exchange).

Public Debt Charges: Net Burden on Consolidated Revenue
(*\$'000*)

Particulars	Interest			Sinking Fund Contribution		
	1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
Expenditure from Consolidated Revenue	(a) 28,383	(a) 31,771	(a) 33,229	(b) 4,538	(b) 4,881	(b) 5,287
Recovered from Semi-Government Bodies, etc.	18,177	19,732	21,770	2,287	2,476	2,625
Net Burden on Consolidated Revenue (c)	10,206	12,040	11,459	2,252	2,405	2,662

(a) Includes loan management charges.

(b) Contribution payable under the Financial Agreement to the National Debt Sinking Fund.

(c) In respect of non-revenue producing assets such as schools, roads, etc.

Government Railways and Bus Services

Unlike the Consolidated Revenue Funds of some Australian States, the Tasmanian Fund excludes the *gross* receipts and expenditure of State business undertakings such as railways, bus services, etc. The principal charge in 1970-71 under this item was in respect of the *net* loss incurred by the Transport Commission during 1969-70 (\$3,502,058). Another major item was a contribution of \$1,418,000 to the Metropolitan Transport Trust which experienced a net trading loss of \$1,025,685 in 1969-70.

Roads and Bridges

The chief expenditure under this item in 1970-71 was a transfer of \$5,032,879 to the State Highways Trust Fund, representing revenue received from motor-tax and public vehicle fees. Grants totalling \$1,082,000 were paid from Consolidated Revenue Fund to the Transport Commission to cover the cost of vehicle registration and traffic control.

State Trust and Special Funds

State revenues are payable to Consolidated Revenue with the exception of certain revenues which have been set aside by Acts of Parliament for specific purposes and which are payable into special funds or accounts at the State Treasury. The volume of these transactions is high, \$138,117,835 being received in 1970-71, \$139,202,956 being expended and the balance in the funds changing from \$9,048,168 (1 July 1970) to \$7,963,047 (30 June 1971).

It should be noted that many accounts in the Trust and Special Funds indicate Treasury transactions which are merely supplementary to those recorded under Consolidated Revenue and Loan Funds; the following examples are given:

State Trust and Special Funds: Selected Accounts, 1970-71
('\$000)

Account	Receipts	Expenditure
Commonwealth Tax Deductions Suspense Account (a)	9,998.5	9,998.5
Pay-roll Tax Suspense (b)	1,458.5	1,458.5
Hydro-Electric Commission Suspense Account (c)	496.6	865.6

- (a) Wages and salaries included under Consolidated Revenue and Loan Fund expenditure are shown at gross value; however, the deductions applicable to wage and salary earners on Government pay-rolls are passed, via this account, to the Commonwealth.
- (b) Expenditure under Consolidated Revenue and Loan Fund included pay-roll tax; however, pay-roll tax applicable to Government pay-rolls was passed, via this account, to the Commonwealth.
- (c) The Treasury acts as agent for meeting overseas liabilities incurred by the Hydro-Electric Commission; these liabilities, mainly incurred in the acquisition of plant and equipment, are largely accounted for in Loan Fund expenditure.

Some accounts are concerned with Government activities financed by the Commonwealth, the State acting as trustee or agent in the transactions; examples follow:

State Trust and Special Funds: Selected Commonwealth Accounts, 1970-71
('\$000)

Account	Receipts	Expenditure
Tasmanian University (Commonwealth Grants) Account (a)	1,776.1	1,776.1
Commonwealth Free Milk Scheme Account (b)	681.8	576.6
Home Builders Fund (c)	4,611.8	4,514.4

- (a) Treasury passes Commonwealth grants to University of Tasmania.
- (b) Education Department administers Free Milk Scheme for school children on behalf of Commonwealth.
- (c) Agricultural Bank administers loans to home builders, the source of funds being the Commonwealth.

In the case of some accounts, there is provision for crediting the Trust and Special Funds with contributions from Consolidated Revenue, an important example being the State Highways Trust Fund:

State Trust and Special Funds: State Highways Trust Fund, 1970-71
('\$000)

Item	Receipts	Expenditure
Commonwealth Contribution	10,230.0	..
Grant from Consolidated Revenue	5,032.9	..
Roads, Bridges, Jetties, Ferries and Planning	110.0	15,782.3
Self-balancing Entries	1,597.4	1,597.4
Fund Entries	16,970.3	17,379.7

The Forestry Fund Account records transactions under legislation requiring revenue from forestry to be paid to Consolidated Revenue, and for Consolidated Revenue to expend an equal amount on forestry in the following year:

State Trust and Special Funds: Forestry Fund Account, 1970-71
('\$000)

Item	Receipts	Expenditure
Grant from Consolidated Revenue (a)	1,652.8	..
Expenditure on Forestry .. .. .	..	1,719.9
Reimbursement, Softwood Forestry Agreement	67.0	..
Self-balancing Entries	674.2	674.2
Fund Entries	2,394.1	2,394.1

(a) Consolidated Revenue recorded Forestry receipts of \$1,652,840 in 1969-70; this sum therefore became the 1970-71 contribution from Consolidated Revenue.

Some of the funds held in trust are not owned by the State Government, e.g. St John's Park Inmates Trust Account. Other funds are held on behalf of semi-government authorities, e.g. Agricultural Bank.

State Loan Fund

The *Public Account Act* 1962 has, inter alia, the following provisions relating to the Loan Fund: (i) the Governor, on Treasury advice, may make transfers between block votes as long as the total authorised amount is not exceeded; (ii) a sum of up to \$400,000 may be spent for purposes not previously authorised; (iii) for purposes previously authorised, an additional sum of up to \$1m may be spent; (iv) in instances of expenditure outside the provisions of a specific Loan Fund Appropriation Act, the ratification of such action is to be sought from Parliament before the close of the following financial year. The Act also provides that the unexpended balances of votes at the close of the financial year lapse (in contrast with previous practice when such balances were carried forward from year to year).

Expenditure from the Loan Fund is devoted to two main purposes: (i) the making of advances to State semi-government authorities; and (ii) the carrying out of the State's own works programme. Such funds, whether lent to other authorities for their works programmes or spent directly by the State, result in the creation of new capital assets, a large proportion of

which are revenue earning and therefore capable of reimbursing the State for the debt charges which it has incurred. (An earlier section on Consolidated Revenue Expenditure shows the gross and net expenditure on annual debt charges.)

In addition to money from loan raisings, the Loan Fund records other receipts such as repayment of advances and Commonwealth capital grants; it is usual, therefore, to record loan expenditure on both gross and net bases. The annual net loan expenditure is, in effect, the disbursement of the new borrowings for the year, augmented or diminished by the net movement in the Loan Fund balance. The following table shows the calculation of net loan expenditure from two viewpoints: (i) as a residue from gross loan expenditure; and (ii) as the algebraic sum of new loan raisings for new capital purposes, the net movement in the Loan Fund balance and discount and capital appreciation expenses:

State Loan Fund: Calculation of Net Loan Expenditure
(£'000)

Particulars	1968-69	1969-70	1970-71
(i) Gross Loan Expenditure	44,458	49,411	52,079
Less Repayments	2,341	2,257	2,437
Less Commonwealth Grants	1,952	2,086	2,249
Net Loan Expenditure	40,164	45,069	47,393
(ii) Gross Borrowings for New Capital Purposes ..	(a) 42,141	45,370	(a) 34,576
Commonwealth Grant (b) .. .. .	..	..	13,980
Movement in Loan Fund Balance	-2,070	-400	-1,345
Other (c)	93	99	182
Net Loan Expenditure	40,164	45,069	47,393

(a) Includes discount on borrowings for new capital purposes. Amounts were: £21,000, 1968-69; £6,000, 1970-71.

(b) Commencing in 1970-71 the Commonwealth provided a capital grant to replace amounts which would otherwise have been obtained as loan borrowings.

(c) Discount on borrowings for conversion and re-financing purposes and capital appreciation items.

The following table shows gross and net loan expenditure annually:

Loan Fund: Gross and Net Loan Expenditure
(£'000)

Year	Loan Expenditure		Year	Loan Expenditure	
	Gross	Net		Gross	Net
1953-54	31,816	27,544	1962-63	33,332	30,510
1954-55	35,310	29,378	1963-64	35,354	32,905
1955-56	35,212	27,048	1964-65	35,816	33,352
1956-57	23,544	22,038	1965-66	39,411	36,573
1957-58	23,390	21,666	1966-67	40,161	36,636
1958-59	27,610	25,112	1967-68	46,054	42,128
1959-60	29,130	26,442	1968-69	44,458	40,164
1960-61	33,866	30,612	1969-70	49,411	45,069
1961-62	32,520	30,088	1970-71	52,079	47,393

The next table shows loan fund payments classified according to function:

Loan Fund Payments Classified by Function (a)
(\$'000)

Function	1968-69	1969-70	1970-71
Part 1: Net Payments by Function (b)—			
Law, Order and Public Safety—			
Police	499	508	1,104
Prisons	48	98	148
Other	450	607	350
Total	996	1,213	1,602
Education—			
Primary	1,493	1,169	1,132
Secondary	1,093	1,125	1,343
Tertiary—			
Advanced	-81	275	658
Technical		156	-21
University		1,216	171
Other	1,280	1,527	2,408
Total	4,377	5,467	5,691
Public Health—			
Mental and Other Hospitals (excl. Repatriation) ..	4,753	4,650	5,020
Ambulances	43	49	74
Other	257	100	78
Total	5,053	4,799	5,173
Welfare	29	71	-1
Development and Conservation of National Resources and Assistance to Industries—			
Agricultural, Pastoral and Dairying	821	873	944
Forestry	1,512	1,443	1,870
Mines and Minerals	-238	-242	-232
Fisheries and Game	199	198	86
Water Supplies	1,247	620	1,001
Secondary Industries	743	810	-53
Land Administration	41	85	13
Other	-19	319	372
Total	4,305	4,106	4,000
Transport and Communication—			
Roads and Bridges	756	1,048	973
Other	252	3,334	2,047
Total	1,008	4,381	3,020
Electricity (Advances to the H.E.C.)	20,725	23,125	24,500
Public Works Administration n.e.i.	2,085	1,420	2,204
Housing	-397	-353	-365
Cultural and Recreational	243	974	1,574
Debt Services n.e.i. (State)—			
Sinking Fund and Redemption (incl. Conversion) ..	37,117	53,847	73,483
Loan Management	-98	-81	-139
Total	37,019	53,766	73,345
Other	1,725	-154	-55
Part 2: Total Repayments to Loan Fund (b) (c) ..	4,294	4,342	4,686
Total Payments from Loan Fund ..	81,461	103,159	125,374

(a) Based on Commonwealth code used in analysis of government sector accounts.

(b) Part 1 payments for each function are gross less repayments; Part 2 shows the repayments in total.

(c) Includes minor Commonwealth grants taken into Loan Fund.

The item 'Total Repayments to Loan Fund' in the preceding table includes minor grants received from the Commonwealth and credited to Loan Fund (the total amount in 1970-71 was \$2,249,000). The major grant, which is excluded from the item 'Total Repayments to Loan Fund', in 1970-71 was \$13,980,000. Minor Commonwealth Grants received in 1970-71 were: (i) advanced education grants, \$515,000; (ii) grants for school science laboratories, \$390,000; (iii) university financial assistance grants, \$364,000; (iv) school libraries grants, \$355,000; (v) technical training grants, \$325,000; and (vi) mental health institution grants, \$212,000. Principal repayments to the Loan Fund from State sources in 1970-71 were: (i) recoveries of rural advances under the *State Advances Act* 1935, \$493,000; (ii) repayments under the *Industrial Development Act*, \$483,000; and (iii) repayments under the *Homes Act* 1935, \$365,000.

The following table shows how a reconciliation may be obtained between total loan fund payments in the previous table and net loan fund expenditure:

Net Loan Fund Expenditure
('\$000)

Particulars	1968-69	1969-70	1970-71
Total Payments from Loan Fund	81,461	103,159	125,374
Debt Service Transactions (a)—			
Conversion (Australia)	—27,576	—37,005	—45,254
Conversion (State Savings Bank Agreement)	—960	—960	—960
Redemption from New Cash Borrowing	—8,581	—15,882	—27,269
Loan Fund Expenditure for New Capital Purposes (b) ..	44,344	49,312	51,891
Capital Appreciation on Special Bonds (a)	90	99	182
Discount Allowed on Borrowings (a)	23	..	6
Gross Loan Fund Expenditure (b)	44,458	49,411	52,079
Total Repayments to Loan Fund (a)	—4,294	—4,342	—4,686
Net Loan Fund Expenditure (b)	40,164	45,069	47,393

(a) Items necessary for reconciliation with Treasurer's published figures are marked (b).

(b) As specified in Treasurer's Statement.

The relationship between aggregate net loan expenditure, total loans raised and the State Public Debt is established in the following table:

Aggregate Net Loan Expenditure and State Public Debt (a) at 30 June
('\$000)

Particulars	1969	1970	1971
Aggregate Net Loan Expenditure	674,580	719,650	767,042
Unexpended Balance, Loan Fund	3,354	3,754	5,099
Grand Total Loans Raised	677,935	723,404	772,142
Less Aggregate Redemptions from Sinking Funds ..	69,507	77,304	84,073
Less Liability for Exchange on Overseas Redemption ..	8,692	8,692	8,692
Less Commonwealth Grant (a) .. .. .	..	..	13,980
State Public Debt (b)	599,736	637,407	665,397

(a) Capital grant provided to replace amounts which would otherwise have been obtained as loan borrowings.

(b) Overseas component at exchange rates prevailing on 1 July 1927.

State Public Debt

The State Public Debt is calculated on two bases: (i) with overseas debt calculated at 'mint par of exchange', i.e. at the exchange rates prevailing on 1 July 1927. 'Mint par debt' is the official debt for the purpose of determining sinking fund contributions payable under the Financial Agreement, 1927; and (ii) with overseas debt calculated at current rates of exchange.

The following table shows the State Public Debt calculated on both bases:

State Public Debt at 30 June 1971: At Mint Par of Exchange and at Current Rates of Exchange

Place in Which Debt Repayable	\$ Aust. at Mint Par of Exchange		\$ Aust. at Current Rates of Exchange	
	Conversion Rate of \$A (a)	Debt (\$'000)	Conversion Rate of \$A (b)	Debt (\$'000)
Australia .. ..	.. ..	654,530	.. ..	654,530
London	£0.5 sterling	6,154	£0.46667 sterling	6,594
New York	U.S. \$2.43325	3,778	U.S. \$1.1200	8,207
Canada	C. \$2.43325	350	C. \$1.1498	740
Switzerland	S. Francs 12.61965	293	S. Francs 4.5728	810
Netherlands	Guilders 6.053925	293	Guilders 3.9930	444
Total .. ..	.. ..	665,397	.. ..	671,324

(a) Exchange rates at 1 July 1927 (rate for £A 0.5).

(b) Exchange rates at 30 June 1971 for \$A.

The most significant changes between the 1927 rates of exchange and those current today occurred in four stages: (i) 1930, when the Australian pound was devalued 20 per cent in relation to sterling; (ii) 1949, when the Australian pound was devalued by 30.5 per cent parallel to a similar devaluation in sterling; (iii) 1967, when the pound sterling was devalued 14.3 per cent (but the decision was taken not to devalue the \$A); and (iv) 1971, when the Australian dollar, although remaining within the fluctuation limits of the International Monetary Fund, was devalued 2.25 per cent following a 7.89 per cent devaluation of the United States dollar.

The growth of the public debt, expressed at mint par of exchange, is shown in the following table:

State Public Debt: Place of Flotation and Interest Payable (\$'000)

At 30 June	Debt Redeemable In—						Total Debt	Interest Payable (a)
	London	New York	Switzerland	Canada	Netherlands	Australia		
1962	14,652	3,572	293	505	399	359,830	379,252	17,064
1963	16,092	4,846	293	505	399	382,458	404,594	18,523
1964	17,724	4,684	293	486	399	408,724	432,311	19,790
1965	17,544	4,430	293	473	399	439,163	462,302	21,707
1966	13,733	5,743	293	444	399	471,045	491,658	23,987
1967	13,643	5,284	293	419	399	504,880	524,918	25,940
1968	8,382	4,913	293	393	372	546,539	560,893	27,778
1969	8,082	4,549	293	387	346	586,078	599,736	30,040
1970	6,674	4,178	293	368	319	625,575	637,407	32,939
1971	6,154	3,778	293	350	293	654,530	665,397	36,203

(a) Interest payable at rate of exchange which was current in the year of payment.

A notable feature of the State public debt is that approximately 98 per cent of indebtedness (at mint par of exchange rates) is now domiciled in Australia. There has been a gradual change from the situation which existed a century ago when nearly all loans were financed in London. In 1870, the State's public debt (\$2,537,400) was wholly redeemable in London and even in 1900, less than 10 per cent of the State debt was redeemable in Australia.

Public Debt Transactions

The following table shows particulars of loans raised and redeemed annually during the most recent three-year period (expressed at mint par of exchange) and also the transactions for the current year expressed at current rates of exchange. It will be observed that redemption of loans falling due in any particular year is achieved, in the main, by conversion (i.e. by renewal of the original loans on new terms and conditions):

State Public Debt: Conversion and Redemption
(\$'000)

Particulars	At Mint Par of Exchange			At Current Rates
	1968-69	1969-70	1970-71	1970-71
Loans Raised For—				
New Capital Purposes	42,141	45,370	34,576	34,576
Conversion Purposes	28,536	37,965	46,214	46,214
Redemption, Maturing Loans	8,584	15,882	27,269	27,269
Total Raisings	79,261	99,217	108,059	108,059
Less Loans Redeemed—				
By Conversion	28,536	37,965	46,214	46,214
From New Cash Raisings	8,491	15,783	27,087	27,087
From National Debt Sinking Fund	3,391	7,797	6,768	(a) 7,245
Net Increase in Public Debt	38,843	37,672	27,990	27,513
Debt at End of Year	599,736	637,407	665,397	671,324

(a) Includes a balancing item due to fluctuation in exchange rates during the year, the actual redemption being \$7,141,000.

The following table shows the due dates of loans outstanding *at current exchange rates* (i.e. at the rates prevailing at 30 June 1971) and also the country in which the loans will fall due:

Due Dates of Loans at 30 June 1971
(\$'000)

Maturing During—	Amount Maturing In—				Total
	Australia	London	New York	Other Overseas Countries	
1971-72	65,687	..	313	..	66,000
1972-73	51,979	..	738	..	52,717
1973-74	50,083	..	..	..	50,083
1974-75	28,029	1,532	..	..	29,561
1975-76	39,212	137	..	810	40,159
1976-77	23,961	..	..	..	23,961
1977-78	39,781	1,211	..	..	40,992
1978-79	31,536	1,746	511	..	33,793
1979-80	17,706	..	631	..	18,337
1980-81 to 1984-85	103,722	1,967	3,211	1,184	110,084
1985-86 to 1989-90	139,837	..	2,803	..	142,639
1990-91 to 1994-95	11,850	..	..	..	11,850
1995-96 to 2005-06	51,148	..	..	..	51,148
Total	654,530	6,594	8,207	1,994	671,324

The following table shows the rates of interest which are payable on the State Debt and the portions of the debt at each rate in Australia, London, New York and elsewhere overseas respectively (*at current exchange rates*):

Rates of Interest on Public Debt: 30 June 1971
(\\$'000)

Rates of Interest (Per Cent)	Amount Maturing In—				Total
	Australia	London	New York	Other Overseas Countries	
1.00	439	..	..	..	439
3.25 .. .. .	..	1,532	..	..	1,532
4.125	11,520	..	..	..	11,520
4.1875	1,812	..	..	..	1,812
4.25	22,066	..	..	..	22,066
4.3125	850	..	..	..	850
4.4375	2,092	..	..	..	2,092
4.50	15,381	..	..	810	16,191
4.625	2,954	..	..	..	2,954
4.75	29,406	..	738	..	30,144
4.80	4,963	..	..	..	4,963
5.00	196,427	..	824	444	197,695
5.15	1,791	..	..	..	1,791
5.20	9,945	..	..	..	9,945
5.25	122,894	..	1,312	..	124,206
5.30	2,791	..	..	..	2,791
5.375	17,362	..	..	..	17,362
5.40	31,196	..	..	..	31,196
5.50	5,990	4,755	2,530	..	13,275
5.60	10,323	..	..	..	10,323
5.75	5,574	..	2,803	740	9,117
5.80	7,093	..	..	..	7,093
5.90	3,450	..	..	..	3,450
6.00	13,292	306	..	..	13,598
6.40	41,828	..	..	..	41,828
6.50	32,850	..	..	..	32,850
6.60	8,293	..	..	..	8,293
6.75	2,375	..	..	..	2,375
6.80	19,438	..	..	..	19,438
7.00	30,136	..	..	..	30,136
Total	654,530	6,594	8,207	1,994	671,324

The next table summarises the transactions of the National Debt Commission in relation to the Tasmanian Public Debt:

National Debt Commission: Transactions in Respect of Tasmanian Public Debt
(\\$'000)

Particulars	1968-69	1969-70	1970-71
Balance at Beginning of Period	81	2,354	724
Contributions—			
From—Commonwealth Government	1,485	1,598	1,694
State Government	4,523	4,861	5,263
Interest Received (Net)	—12	67	16
Funds Available	6,078	8,880	7,697
Deduct			
Redemption and Re-Purchase (a)—			
At Mint Par of Exchange	3,391	7,797	6,768
Exchange Adjustment	333	359	373
Balance at End of Period	2,354	724	555

(a) The sum of the two specified items represents the cost at current rates of exchange.

The National Debt Commission was established as part of the 1927 Financial Agreement and its function is to administer one consolidated sinking fund in respect of the debt of the Commonwealth and States. Sinking fund moneys are used to redeem unconverted securities at maturity and to repurchase securities on the stock market. The obligations of the States and the Commonwealth in contributing to the consolidated sinking fund are set out earlier in this Chapter in a section headed '*Payments Under the Financial Agreement (1927)*'; although the Commission operates a consolidated fund, it is possible to obtain statements for its operations with respect to each State's public debt.

TAXATION

Taxation in Tasmania

Introduction

As citizens of the Commonwealth, Tasmanians are subject to taxes levied both by the State and the Commonwealth. Taxation figures per head of population, in the following table, indicate the relative severity of the two forms of taxation.

Taxation: State of Tasmania and Commonwealth, 1970-71 (a)

Tax	Amount (\$'000)		Per Head of Population (\$)	
	Tasmania (b)	Common- wealth (c)	Tasmania	Common- wealth
Income .. .. .	..	4,619,415	..	365.66
Customs and Excise .. .. .	..	1,519,449	..	120.28
Sales .. .. .	..	632,547	..	50.07
Pay-roll .. .. .	..	247,677	..	19.61
Probate and Succession Duties	3,065	70,101	7.87	5.55
Motor	7,393	..	18.99	..
Stamp Duties	4,369	..	11.22	..
Receipts Duty	936	..	2.40	..
Land	2,851	..	7.32	..
Racing	1,483	..	3.81	..
Liquor	1,266	..	3.25	..
Levy on Insurance Companies for Fire Auth- orities	736	..	1.89	..
Entertainment	90	..	0.23	..
Broadcast Listeners' and Television Viewers' Licences .. .. .	..	49,563	..	3.92
All Other	44	53,098	0.11	4.20
Total	22,231	7,191,851	57.11	569.29

(a) Collections from all sources, including amounts paid to special funds.

(b) State taxes collected by Tasmanian Government and other State authorities.

(c) Commonwealth taxes collected for Australia as a whole.

In addition to the taxes shown in the above table Tasmanian property owners also pay rates and licence fees to local government authorities. Total rates and licence fees collected during 1970-71 amounted to \$18,708,000 or \$48.07 per head of mean population.

Assuming that Tasmanians contributed to Commonwealth taxation in strict proportion to the relative mean populations of the State and the Commonwealth, it would be theoretically correct to add the two per capita figures (\$57.11 and \$569.29) and arrive at a figure of \$626.40 as the total per capita taxation of the Tasmanian and Commonwealth Governments within the State. An alternative way of examining the problem is to refer to total Commonwealth taxes collected in Tasmania but this measure is unsatisfactory for a number of reasons, the chief defects being:

- (i) Central Office collections of Commonwealth taxation ceased at 30 June 1970 and for the income years after 1969-70 all assessments are being handled in State Offices of the Taxation Department. The effects of this change are deceptive because income tax collected in *Tasmania* does not necessarily directly relate to income earned in *Tasmania* since a company with branches in Tasmania but with its head-office in Melbourne may make its return to the Victorian Taxation Office.
- (ii) Goods shipped to Tasmania will, in some cases, already have been taxed in another State in respect of customs, excise or sales taxes. Even though other States are credited with the collection of these three taxes, the fact remains that Tasmanians bear their incidence in the form of increased commodity prices. The amount of tax collected in other Australian States on goods shipped to Tasmania is not known.

Estimated Incidence

The following table shows actual collections of Commonwealth taxes in the State and also the estimated incidence of taxes collected elsewhere in Australia:

Taxation: Collected by Commonwealth in Tasmania and Elsewhere and Estimated Incidence in Tasmania
(\$'000)

Tax	1968-69	1969-70	1970-71
Collected in Tasmania—			
Income Tax (a)	71,619	79,728	92,414
Estate Duty (a)	1,458	1,518	1,624
Pay-roll Tax	5,556	6,089	6,965
Gift Duty	200	200	228
Stevedoring Industry Charge	963	1,058	964
Broadcast Listeners' and Television Viewers' Licences	1,314	1,397	1,429
Primary Production Taxes	783	719	608
Sales Tax	13,025	12,983	14,029
Customs	2,686	3,231	3,164
Excise	23,141	23,668	27,490
Other	25	38	57
Total Collected in Tasmania	120,771	130,629	148,972
Collected Elsewhere in Australia (b)—			
Sales Tax	1,386	1,426	4,001
Customs	1,414	1,701	10,120
Excise	1,172	1,432	2,539
Estimated Incidence (a)	132,743	146,188	165,632

(a) Includes Central Office collections.

(b) Estimated; goods on which these taxes were paid are assumed to have been sold in Tasmania.

In estimating the collection in other Australian States, of the main taxes affecting Tasmanians, account was taken of selected sales figures derived from the latest Retail Census which showed Tasmanian *per head* sales to be 92.5 per cent of the corresponding Australian figure. Accordingly the *per head* incidence of customs, excise and sales taxes in Tasmania was taken to be 92.5 per cent of the Australian *per head* collection figure for each tax.

Commonwealth Income Tax

Income tax, the most important revenue raising levy in the Commonwealth, was introduced into Australia in 1884 by the colony of South Australia. In the course of time this form of taxation was adopted by all the Australian Governments between 1884 and 1915. From 1915 to 1942 the State and Commonwealth Governments imposed taxation concurrently, the rate of State income tax varying from State to State.

Uniform taxation on incomes throughout Australia was adopted in 1942, as a war measure, when the Commonwealth Government became the sole authority levying this tax.

Certain types of income are exempt from tax in Australia. These include income from gold and uranium mining; war, invalid, age and widows' pensions; child endowment; and unemployment and sickness benefits.

Expenses incurred in producing assessable income and certain losses incurred in previous years may be allowable deductions in calculating taxable income.

For the income year 1971-72, tax was payable on the incomes of individuals and commenced at a taxable income of \$417. However, certain limitations applied to the tax payable by aged persons, over 65 years of age in the case of a male and over 60 years in the case of a female. Concessional deductions were allowed to taxpayers on account of dependants, certain medical and dental expenses, life insurance premiums and superannuation contributions (up to \$1,200), medical or hospital benefit fund contributions and education expenses (up to \$400 per dependant), etc.; these outlays can be subtracted from gross income to calculate taxable income. Dependants included spouse, parents, parents-in-law, children under sixteen years of age, student dependants under 25 years of age, invalid relative over 16 years of age, or daughter-housekeeper for widow or widower so long as they were maintained wholly or in part by the taxpayer during the year. A concessional deduction might be allowed for a housekeeper having the care of children under 16 years of age or of an invalid relative where the taxpayer did not contribute to the maintenance of a spouse or daughter-housekeeper. The maximum concessional deduction allowable in respect of each type of dependant and housekeeper was:

spouse, \$312; parent or parent-in-law, \$312; children under 16 years: one child, \$208, other children, \$156; student dependants, 16 to 25 years, \$208 each; invalid relative not less than 16 years, \$208 each; housekeeper or daughter-housekeeper, \$312.

The following table shows the rates of income tax for individuals for the income year 1971-72:

Australia: Personal Income Tax Payable on Selected Incomes, Income Year 1971-72
(£)

Taxable Income	Tax Payable (a)	Taxable Income	Tax Payable (a)
417	0.46	6,800	1,734.81
600	14.71	7,200	1,890.14
800	30.16	7,600	2,073.40
1,000	50.40	8,000	2,247.50
1,200	73.99	8,400	2,430.78
1,400	100.71	8,800	2,614.07
1,600	130.56	9,200	2,808.20
1,800	163.54	9,600	3,002.34
2,000	199.66	10,000	3,196.48
2,400	281.07	11,000	3,724.62
2,800	373.34	12,000	4,252.75
3,200	475.21	13,000	4,841.43
3,600	586.68	14,000	5,430.10
4,000	706.92	15,000	6,018.78
4,400	840.11	16,000	6,607.45
4,800	973.29	17,000	7,258.75
5,200	1,117.33	18,000	7,910.05
5,600	1,261.36	19,000	8,561.35
6,000	1,415.84	20,000 (b)	9,212.65
6,400	1,570.31		

(a) Calculated by adding the 4.375 per cent levy to the basic scale of income tax.

(b) Income in excess of \$20,000 was taxed at 69.62 cents for each dollar of excess.

For income years 1954-55 to 1969-70 the basic scale for income tax on individuals remained the same except that general five per cent rebates were allowed in 1959-60, 1961-62, 1962-63, and 1963-64; and a 2½ per cent levy was added for the period 1965-66 to 1969-70. For 1970-71 the basic scale was revised as follows:

- (i) on incomes up to \$10,000 a reduction of 10 per cent;
- (ii) on incomes \$10,000 to \$32,000 a lesser reduction tapering to zero (the reduction at \$20,000 was 4.4 per cent). However, the 2½ per cent levy still had to be applied to the revised basic scale.

The 1971 budget increased the levy for 1971-72 income year to 5 per cent, but supplementary legislation in April 1972 cut the levy back to 2½ per cent for the remainder of the financial year. The net effect, according to an averaging formula applied, was a levy of 4.375 per cent over the whole financial year.

A system operates whereby the majority of taxpayers have regular deductions made from their salaries or wages, i.e. the 'pay-as-you-earn' principle. The amounts deducted are regulated so that the employee will have paid the approximate amount of his taxation by the end of the income year when he makes a return in which he may claim the refund of any overpayment of taxation instalments.

The next table shows the number of taxpayers, taxable income and income tax assessed during the year 1970-71 (income year: 1969-70).

The following definitions apply to the table:

- (i) Actual Income: Gross income *including exempt income* less expenses incurred in earning that income.
- (ii) Individuals: *Excluding companies*. Residents assessed both in Tasmania and at Central Office, also non-residents assessed in Tasmania.
- (iii) Taxable Income: Actual income *less* exempt income and *less* allowable deductions.

Tasmania, Income Tax: Income Year 1969-70
Individuals—Residents and Non-Residents

Grade of Actual Income	Number of Taxpayers			Actual Income	Taxable Income	Net Income Tax Assessed
	Males	Females	Persons			
\$				\$'000	\$'000	\$'000
417- 599	1,395	3,137	4,532	2,336	2,236	43
600- 799	1,667	3,504	5,171	3,611	3,357	105
800- 999	1,544	3,645	5,189	4,681	4,256	187
1,000- 1,199	1,806	4,012	5,818	6,389	5,700	314
1,200- 1,399	2,146	3,941	6,087	7,920	7,066	463
1,400- 1,599	2,369	3,986	6,355	9,539	8,450	624
1,600- 1,799	2,531	4,082	6,613	11,242	9,944	828
1,800- 1,999	2,892	4,338	7,230	13,737	12,018	1,105
2,000- 2,199	3,265	3,916	7,181	15,086	13,060	1,312
2,200- 2,399	4,105	3,261	7,366	16,941	14,353	1,553
2,400- 2,599	4,848	2,373	7,221	18,033	14,898	1,703
2,600- 2,799	5,589	1,730	7,319	19,763	15,921	1,911
2,800- 2,999	6,215	1,340	7,555	21,923	17,408	2,181
3,000- 3,999	30,504	3,962	34,466	119,621	92,079	13,049
4,000- 5,999	26,245	2,217	28,462	135,604	103,311	18,718
6,000- 7,999	6,410	569	6,979	47,436	36,659	8,562
8,000- 9,999	1,897	222	2,119	18,729	14,808	4,128
10,000-19,999	1,757	186	1,943	25,154	20,933	7,521
20,000-29,999	170	19	189	4,403	3,882	1,831
30,000 and Over	38	9	47	1,859	1,744	975
Total	107,393	50,449	157,842	504,007	402,083	67,114

Companies (Income Tax)

The tax payable by companies for the financial year 1971-72 is based on income derived during the year ended 30 June 1971 or substituted accounting period. (In the case of tax on individuals, financial year and income year are usually synonymous.)

The following table shows the rates of tax and contribution payable by companies for the 1971-72 financial year:

Rates of Income Tax Contribution
Companies: Financial Year 1971-72

Scale	Taxable Income	
	Up to \$10,000	Balance
	cents per \$	cents per \$
A	32.5	42.5
B	37.5	47.5
C	42.5	47.5
D	37.5	37.5

The following shows the application of the above scales to the various types of company:

Private: (A) except that 50 cents in the \$ was payable on the undistributed amount.

Co-operative: (B).

Life Assurance: If purely mutual (A). Other Life Assurance (if resident) mutual income (A); other income (C) except that maximum other income subject to 42.5 cent rate is \$10,000 less mutual income; if non-resident, mutual income (A), dividend income (B), other income (C) except that maximum dividend income subject to 37.5 cent rate is \$10,000 less mutual income, and maximum other income subject to 42.5 cent rate is \$10,000 less the sum of dividend and mutual income.

Non-Profit: Friendly Society Dispensary (D); other (B).

Other Companies: Resident (C); non-resident—dividend income (B), other income (C) except that maximum other income subject to 42.5 cent rate is \$10,000 less dividend income.

State Taxation

In the section on Consolidated Revenue, taxes collected by the Tasmanian Government were shown in summarised form.

The next table gives full details of State Taxation. It should be noted that certain taxes are reserved for special purposes. Examples are: (i) Land Tax—although this item is recorded as a Consolidated Revenue receipt, it was passed to the Transport Commission; however, this practice was discontinued in 1969-70; (ii) Motor Taxation—the 'motor tax' and 'public vehicle fees' components of this item (\$5,033,000 in 1970-71) are passed from Consolidated Revenue to the State Highways Trust Fund; and (iii) Racing and Gaming Taxes—prior to 1970-71, part of the 'paid to special funds' item was passed to the racing clubs and the remainder spent on administration of racing. From 1970-71, all Racing and Gaming Taxes paid to special funds were passed to the racing clubs.

State Taxation Collections (a)
(\$'000)

Tax	1968-69	1969-70	1970-71
Deceased Persons' Estate Duties	3,029	3,263	3,065
Entertainment Tax	73	89	90
Stamp Duties (excluding Bookmakers' Tickets)—			
Cheques	611	643	681
Bills of Exchange and Lading	3	3	4
Hire-Purchase and Related Agreements	483	504	569
Legal Documents, etc.	1,325	1,478	1,413
Adhesive Revenue Stamps	644	419	378
Insurances	936	1,034	1,198
Marketable Securities	80	129	126
Receipts Duty	115	1,202	936
Racing and Gaming Taxes—			
Paid to—Consolidated Revenue	826	883	1,079
Adjustment (b)	—8	14	—26
Special Funds	495	511	430
Land Tax	2,352	2,633	2,851
Motor Taxation—			
Paid to—Consolidated Revenue	6,368	6,718	7,312
Special Funds	77	80	80
Tax Paid to Fire Authorities (c)	661	666	736
Liquor Tax and Related Licences—			
Tax	944	998	1,097
Publicans' Licences, etc.	25	19	41
Wholesale Licences	98	113	123
Registration of Clubs	5	5	6
Sundry Licences—			
Animals' and Birds' Protection Act	22	37	35
Auctioneers and Estate Agents	8	6	5
Other (including Firearms Act)	4	5	4
Total	19,176	21,453	22,231

(a) Collections from all sources of taxation, including amounts paid to special funds.

(b) For different accounting periods.

(c) Paid by insurance companies direct to the Fire Brigades Commission and the Rural Fires Board.

State Land Tax

The rates of land tax assessed on urban unimproved land values for the year 1970-71 are shown in the following table:

Selected Rates of State Land Tax (a): Urban Land 1970-71
(\$)

Taxable Value (b)	Tax Payable	Taxable Value	Tax Payable
1,000	2	15,000	105
2,000	5	25,000	225
4,000	13	50,000	575
6,000	23	100,000	1,575
10,000	55	150,000	2,825

(a) Tax on unspecified values may be calculated by simple proportion, e.g. tax on \$5,750 equals \$13 plus 1,750/2,000 × (\$23 less \$13) i.e. \$21.75. Land values exceeding \$150,000 were further taxed at 3 cents in the \$ on the excess.

(b) Properties having an unimproved value of less than \$1,000 are not subject to land tax.

The rates of land tax assessed on rural land values for the year 1970-71 are shown in the following table:

Rates of State Land Tax: Rural Land, 1970-71

Unimproved Value (\$)	Taxable Value	Tax Rate
1-10,000	Nil	Nil
10,001-15,000	Three times the unimproved value less \$30,000	As for Urban land
15,001 and over	Unimproved value	As for Urban land

The following table summarises the value of urban, rural and composite properties and the tax assessed on each:

State Land Tax: Value of Properties and Tax Assessed
(\$'000)

Year	Gross Unimproved Value				Tax Assessed			
	Urban	Rural	Compo- site (a)	Total	Urban	Rural	Compo- site (a)	Total
1966-67 ..	211,334	98,382	19,428	329,145	1,709	158	241	2,109
1967-68 ..	221,645	108,474	21,544	351,664	1,773	238	280	2,291
1968-69 ..	219,577	134,405	21,038	375,020	1,857	247	274	2,379
1969-70 ..	254,833	133,534	24,344	412,710	2,097	269	306	2,672
1970-71 ..	277,257	140,960	24,234	442,451	2,313	277	312	2,903

(a) Properties made up of both urban and rural land.

State Deceased Persons' Estate Duties

The legislation dealing with State Deceased Persons' Estate Duties is contained in Acts No. 42 of 1957 and No. 62 of 1962. The following table gives details of assessments for 1970-71:

State Deceased Persons' Estate Duties
Number of Estates, Net Value and Tax Assessed, 1970-71

Grade of Dutiable Value	Estates		Net Value as Assessed	Total Duty Assessed (a)	Average Duty	
	Examined	Taxable			Per Estate Examined	Per Taxable Estate
\$	no.	no.	\$'000	\$'000	\$	\$
1- 500	137	21	20	1	4.0	26.2
501- 1,000	75	11	56	1	14.1	96.2
1,001- 1,500	78	19	96	1	13.1	53.8
1,501- 2,000	72	18	127	2	25.6	102.4
2,001- 3,000	133	33	325	7	54.1	218.0
3,001- 4,000	108	26	377	6	59.0	245.0
4,001- 5,000	123	73	565	10	79.9	134.6
5,001- 6,000	108	73	573	17	156.4	231.4
6,001- 8,000	155	117	1,050	36	234.9	311.2
8,001- 10,000	118	90	1,035	38	325.6	426.8
10,001- 15,000	213	162	2,490	138	646.7	850.3
15,001- 20,000	105	103	1,742	123	1,167.2	1,189.9
20,001- 30,000	127	127	2,701	228	1,792.8	1,792.8
30,001- 40,000	64	64	1,968	191	2,976.6	2,976.6
40,001- 50,000	45	45	1,569	175	3,883.0	3,883.0
50,001-100,000	91	91	4,839	645	7,087.4	7,087.4
100,001 and Over	72	72	7,511	1,667	23,154.9	23,154.9
Adjustments .. ..	..	..	..	-45	..	..
Total	1,824	1,145	27,046	3,240	..	..

(a) Rates of duty and levels of exemption vary according to the class of beneficiary and the type of asset contained in the estate.

Motor Taxation

The chief components of motor taxation are: (i) motor tax assessed on a power-weight formula; (ii) vehicle registration fees; (iii) drivers' and riders' licences; and (iv) other registration fees mainly related to public vehicles.

Details of motor taxation collections are shown in the following table:

State Motor Taxation (\$'000)			
Particulars	1968-69	1969-70	1970-71
Motor Tax	4,256	4,463	4,670
Public Vehicle Fees (a)	408	444	443
Stamp Duty on—Third Party Insurance	291	294	315
Vehicle Registration	342	363	388
Other Traffic Fees (b)	1,148	1,233	1,576
Total	6,445	6,797	7,393
Paid into Consolidated Revenue Fund	6,368	6,718	7,312
Retained by Transport Commission	77	80	80

(a) Includes public vehicle fees retained by Transport Commission.

(b) Includes registration fees, licences, number plate charges, transfer fees and learners' permits.

'Motor tax' plus most of the item 'public vehicle fees' shown in the above table is paid to the State Highways Trust Fund. (The amount paid over in 1970-71 was \$5,033,000.)

Racing Taxation

Under the *Racing and Gaming Act* 1952 and amending legislation, licensed bookmakers pay a turnover commission of $2\frac{1}{2}$ per cent on all bets made. Also racing clubs are required to pay a totalisator tax on turnover at the rate of five per cent in respect of race meetings conducted on race courses in a city area, and $2\frac{1}{2}$ per cent in the case of other meetings. An amendment to the *Racing and Gaming Act* in 1971 provided that from 1 June 1971, instead of issuing betting tickets for telephone bets, bookmakers pay two cents duty to Consolidated Revenue on each telephone bet. Details of racing taxation collections and distribution are shown in the next table.

State Racing Taxation: Collection and Distribution
(\$'000)

Particulars	1968-69	1969-70	1970-71
RACING TAXATION RECEIPTS			
Totalisator Tax	54	59	61
Bookmakers' Commission and Licences	1,060	1,140	1,206
Stamp Duty on Bookmakers' Tickets	199	210	216
Total	1,313	1,409	1,483
DISTRIBUTION OF RACING TAXATION RECEIPTS			
Paid into Consolidated Revenue	826	883	1,079
Adjustment (a)	— 8	14	— 26
Expenses—Racing Commission	43	46	(b)
Stipendiary Stewards	12	14	(b)
Commission Payable to Racing Clubs	400	416	430
Racing Assistance Fund	40	37	(b)
Total	1,313	1,409	1,483

(a) An adjustment item is necessary to reconcile items, some referring to financial years and others to different accounting periods.

(b) As from 1970-71 these items were financed from Consolidated Revenue.

Following amendment of the *Racing and Gaming Act* 1971 betting turnover tax is now paid into Consolidated Revenue. Previously two charges had been made on the tax: (i) the administrative costs of the Racing Commission; and (ii) a contribution to the racing assistance fund. Both charges were limited to a maximum of \$40,000.

The turnovers on which taxes were levied are as follows:

Betting: Bookmakers' and Totalisator Turnover
(£'000)

Particulars	1968-69	1969-70	1970-71
Licenced Bookmakers' Turnover	41,705	44,899	48,825
Totalisator Turnover	1,145	1,250	1,322
Total Betting Turnover	42,849	46,149	50,147

State Taxation on Lotteries

From 1942 (when the Commonwealth Government became the sole collector of income tax), lotteries conducted from Hobart by Tattersalls (George Adams Estate) were Tasmania's chief source of revenue through State taxation. On 14 July 1954, the promoters transferred their operations to Victoria. A new organisation—Tasmanian Lotteries—was granted a licence and operated until 30 September 1961, when the proprietor surrendered the licence. No operator is now licensed.

In September 1960, the *Racing and Gaming Act* 1952 was amended to permit agreements with other States for the sale of their lottery tickets in Tasmania. Under an agreement with the Victorian Government, Tattersalls were allowed to sell tickets through accredited Tasmanian representatives; the Victorian Government was to pay quarterly to the Tasmanian Government 15½ per cent of the value of subscriptions made as a result of this concession.

For the purpose of Public Finance Statistics, these amounts are classified not as 'taxation' but as 'payment from other States'.

The following table shows the payments made under the interstate agreement since 1963-64:

Payments to Tasmanian Government Based on Sale of Tattersalls Lottery Tickets
(£)

Year	Amount	Year	Amount
1963-64	145,394	1967-68	138,372
1964-65	146,500	1968-69	141,624
1965-66	152,338	1969-70	116,196
1966-67	140,995	1970-71	(a) 196,038

(a) Includes \$33,858 due for the year 1969-70 but not received until early 1970-71.

Fees and Licences under the Licensing Act

The State raises revenue from hotels, clubs, restaurants and liquor wholesalers by: (i) licensing; and (ii) imposing a levy related to turnover. Originally a liquor tax was charged on liquor purchases by hotels, etc. and on wholesalers' direct sales to the public, the year for calculating taxable values and the year of collection being the same. During 1965-66, the *Licensing Act* 1932 was amended to substitute 'percentage fees' based on similar values except that they were those calculated for the year *preceding* collection.

**Fees and Related Licences Collected Under the Licensing Act
(\$'000)**

Tax or Licence	1966-67	1967-68	1968-69	1969-70	1970-71
Percentage Fees	749	830	944	998	1,097
Publicans' and Other Licences Under the Licensing Act	39	23	25	19	41
Wholesale Licences	95	93	98	113	123
Registration of Clubs	4	4	5	5	6
Total	887	950	1,072	1,135	1,266

Chapter 6

DEMOGRAPHY

POPULATION

Introduction

Census of 30 June 1971

Detailed analysis from the population census of June 1971 were not available at the time of printing this Chapter. However, information which subsequently became available has been included in Appendix A 'Later Information'.

Inclusion of Aborigines in Population Statistics

Section 127 of the Commonwealth Constitution required the exclusion of Aborigines from Commonwealth-conducted population censuses from 1911 to 1966. As this section was repealed after the 1967 referendum, total population figures have been adjusted from 1961 to include Aborigines. Tasmanian figures are only minutely affected since only one full-blood Aboriginal was recorded in the State at the 1966 Census.

Historical

In 1803, Lieutenant John Bowen's expedition of 49 persons made the first white settlement at Risdon Cove; at 30 June 1971, Tasmania's population, according to the preliminary census count, was 389,874 persons.

The Statistical Tables, Tasmania 1804 to 1823 show the first population record in 1816 when the white inhabitants numbered 1,461, and analysed as 1,032 free settlers, 409 convicts and 20 children of convicts. From the year 1816, there exists a continuous annual record of Tasmania's population.

Source of Population Figures

There are two principal methods by which population figures are obtained: (i) by census enumeration; and (ii) intercensal estimates based on the application of vital and migration statistics to census data. The second method involves taking account of natural increase (excess of births over deaths); and net migration (excess of arrivals over departures) and applying these net figures to information obtained from an earlier census, the result being termed an intercensal estimate. (*Net migration* may be ascertained by two methods: taking account of *all* arrivals and departures, or only of arrivals and departures related to permanent change of place of residence. The former method was used for all estimates up to 30 June 1961, the latter method for later series. In relation to this change, see later section headed 'Changed Method of Estimating Population'.)

Censuses were conducted by the State in 1841, 1847, 1851, 1857, 1861, 1870, 1881, 1891 and 1901; the Commonwealth Statistician became responsible for censuses with the establishment of the Commonwealth Bureau of Census and Statistics and conducted them in 1911, 1921, 1933, 1947, 1954, 1961, 1966 and 1971.

Population from 1820

The table that follows is based on the traditional historical series and has been compiled to show the population at the end of each decade from 1820, the average annual growth in total population for each decade and the contribution made by natural increase.

Historical Summary of Tasmanian Population in Decades

Year	Estimated Population (a)			Average Annual Increase For Decade (b)	
	Males	Females	Persons	In Total Population	From Natural Increase (c)
1820 (d)	4,057	1,343	5,400	..	..
1830 (d)	18,108	6,171	24,279	1,888	..
1840 (d)	32,040	13,959	45,999	2,172	106
1850	44,229	24,641	68,870	2,287	656
1860	49,653	40,168	89,821	2,095	1,214
1870	53,517	47,369	100,886	1,107	1,622
1880	60,568	54,222	114,790	1,390	1,542
1890	76,453	68,334	144,787	3,000	2,496
1900	89,763	83,137	172,900	2,811	2,776
1910	97,026	92,781	189,807	1,691	3,322
1920	106,236	103,189	209,425	1,962	3,649
1930	111,148	108,835	219,983	1,056	3,127
1940	121,911	118,280	240,191	2,021	2,438
1950	140,339	135,563	275,902	3,571	3,768
1960	174,379	169,531	343,910	6,801	5,523
1970	r195,154	r192,135	r387,289	r4,338	5,116

(a) Up to 1900, at 31 December; from 1910, at 30 June.

(b) Decade ending in year shown.

(c) Excess of births over deaths in calendar years.

(d) Imperial military establishment of about 1,000 troops included; excluded after 1842.

Pattern of Net Migration

From the first settlement until 1850, the rapid growth in population was partly due to the British Government's convict transportation policy. After the cessation of transportation in 1853, the immigration rate slowed and natural increase became the more important component of population growth.

By comparing the last two columns in the previous table, it is possible to make an assumption as to whether net migration (excess of arrivals over departures) tended to be positive or negative in any decade.

In the two decades ended 1870 and 1880, for example, natural increase was becoming a more significant factor but the growth of population was checked by negative net migration. Important mining discoveries (e.g. Mt Bischoff, Zeehan and Mt Lyell) brought prosperity to the State, and the two decades ended 1890 and 1900 were characterised by positive net migration.

The main characteristic of the five decades up to 1950 was a persistent loss of population due to negative net migration, the decade most affected ending in 1930. This trend of net migration loss persisted till the end of World War II (1945). The Commonwealth Government's post-war immigration policy and the increasing industrialisation of the State combined to reverse the adverse trend of the previous half-century and the decade ending 1960 was characterised by positive net migration. However, in the decade ending 1970, some loss of population by negative net migration must be inferred. The actual annual increase in population since 1961 has been as follows:

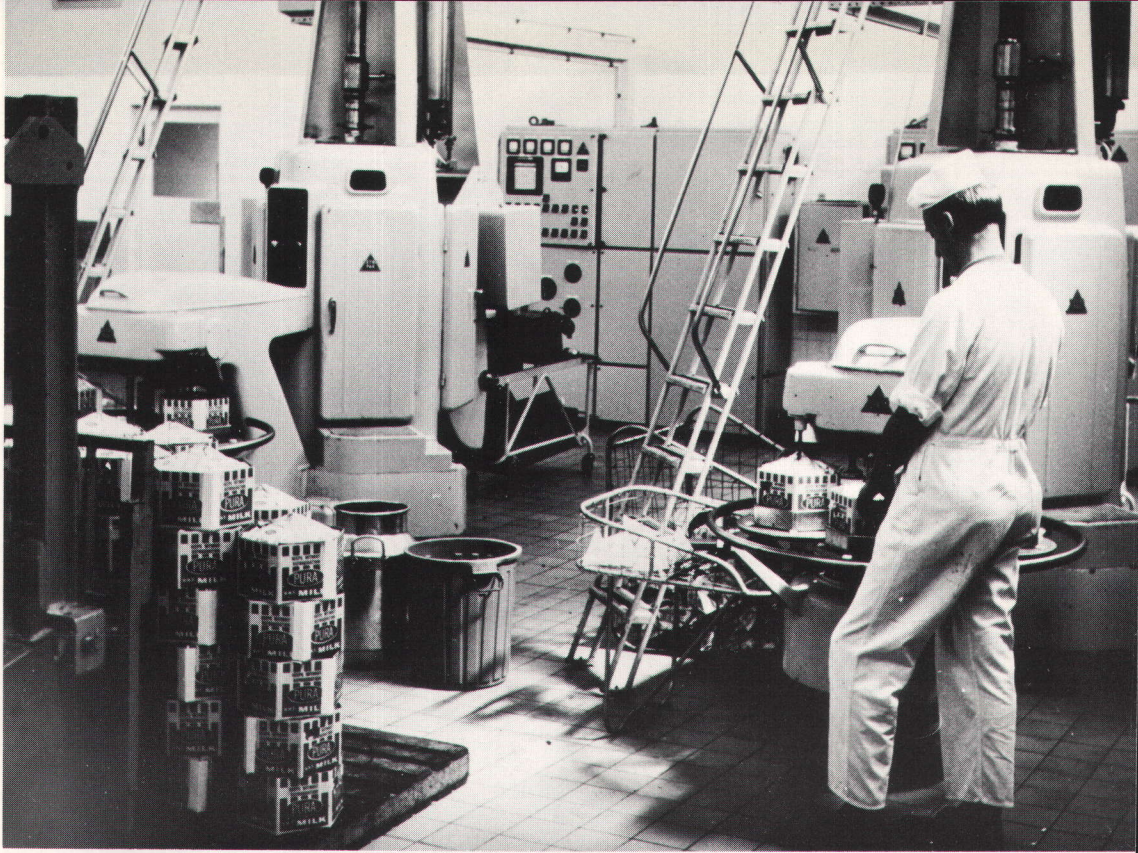


Hong Kong, new market for
Tasmanian Apples
[Dept of Agriculture]

Orchard-filled bulk bin

[Dept of Agriculture]





Packaging U.H.T. milk at Launceston factory

[Dept of Agriculture

Working ore face at Rosebery mine

[Dept of Film Production



Actual Annual Increase in Population from 1961

Year Ended 30 June	Persons	Year Ended 30 June	Persons
1961	6,430	1966	3,531
1962	5,328	1967	3,700
1963	5,059	1968	4,298
1964	3,584	1969	5,135
1965	3,594	1970	2,720

Census Populations from 1841

The following table records the population and masculinity at each census since 1841 and compares the rate of intercensal growth:

Population and Masculinity at each Census from 1841

Census Date (a)	Population			Average Annual Percentage Rate of Increase (b)	Masculinity (c)
	Males	Females	Persons		
31 Dec. 1841	34,469	16,981	51,450	..	202.83
31 Dec. 1847	45,000	22,313	67,313	4.70	201.54
1 Mar. 1851	44,648	25,482	70,130	1.07	175.21
31 Mar. 1857	46,606	34,886	81,492	2.53	133.60
7 Apr. 1861	49,593	40,384	89,977	2.51	122.80
7 Feb. 1870	52,853	46,475	99,328	1.11	113.72
3 Apr. 1881	61,162	54,543	115,705	1.40	112.14
5 Apr. 1891	77,560	69,107	146,667	2.40	112.23
31 Mar. 1901	89,624	82,851	172,475	1.64	108.17
3 Apr. 1911	97,591	93,620	191,211	1.04	104.24
4 Apr. 1921	107,743	106,037	213,780	1.12	101.61
30 June 1933	115,097	112,502	227,599	0.52	102.31
30 June 1947	129,244	127,834	257,078	0.87	101.10
30 June 1954	157,129	151,623	308,752	2.65	103.63
30 June 1961	177,628	172,712	350,340	1.82	102.85
30 June 1966	187,391	184,045	371,436	1.18	101.82
30 June 1971 ^p	196,284	193,590	389,874	0.97	101.39

(a) Imperial military establishments included until 1870, when British troops were withdrawn.

(b) Intercensal increase in total population as compound rate of growth per cent.

(c) Number of males per 100 females.

Population growth varied widely during the nineteenth century. From 1841 to 1847 the annual population increase averaged 4.70 per cent, largely due to the transportation system. Following self-government, the colony entered a period of depression and the growth rate fell until the development of mining at the end of the century. The lowest growth rates in this century were associated with the period 1921-1947; and the highest rate with the period 1947-1954 when the State benefited from an influx of European migrants.

Comparison with other States

The following table compares the Tasmanian population at censuses from 1901 with that of other States and Territories (full-blood Aborigines are included as from 1966):

Australia: Census Populations of States and Territories (a)
(^{'000 Persons})

State or Territory	1901	1933	1947	1954	1961	1966 (b)	p1971 (b)
N.S.W.	1,355	2,601	2,985	3,424	3,917	r4,238	4,590
Victoria	1,201	1,820	2,055	2,452	2,930	3,220	3,496
Queensland	498	947	1,106	1,318	1,519	r1,674	1,823
S.A.	359	581	646	797	969	r1,095	1,173
W.A.	184	439	502	640	737	r 848	1,027
Tasmania	172	228	257	309	350	371	390
N.T.	5	5	11	17	27	r 57	86
A.C.T. (c) .. ..	..	9	17	30	59	96	144
Australia	3,774	6,630	7,579	8,987	10,508	r11,599	12,728

(a) Censuses of 1911 and 1921 are not shown.

(b) Includes Aborigines.

(c) Part of N.S.W. prior to 1911.

The next table shows the average annual rates of increase:

Australia: Average Annual Rate of Increase of Population During Intercensal Periods (a)
(Per Cent)

State or Territory	1921-33	1933-47	1947-54	1954-61	1961-66	1966-71
N.S.W.	1.76	0.99	1.98	1.94	1.57	1.61
Victoria	1.42	0.87	2.56	2.58	1.90	1.66
Queensland	1.86	1.11	2.53	2.04	1.84	1.72
S.A.	1.31	0.76	3.05	2.83	2.41	1.38
W.A.	2.29	0.97	3.51	2.03	2.58	3.91
Tasmania	0.52	0.87	2.65	1.82	1.18	0.97
N.T.	1.87	5.93	6.12	7.40	6.58	8.64
A.C.T.	10.71	4.65	8.70	9.93	10.30	8.42
Australia	1.63	0.96	2.46	2.26	1.91	1.87

(a) Aborigines excluded for 1961-66 and earlier periods but included for 1966-71.

Intercensal Adjustment

Earlier, mention was made of the method for calculating intercensal estimates of population by taking account of recorded natural increase and recorded net migration. The following two tables show these factors in successive intercensal periods from 1921; 'arrivals' and 'departures' in the first table refer to both short-term and long-term movements.

Analysis of Intercensal Increase in Tasmanian Population
(i) Recorded Natural Increase and Recorded Net Migration

Intercensal Period	Births	Deaths	Natural Increase	Arrivals	Departures	Net Migration
4.4.1921 to 30.6.1933 (a)	61,955	25,174	36,781	507,209	535,780	-28,571
30.6.1933 to 30.6.1947 ..	73,130	34,767	38,363	482,577	493,305	-10,728
30.6.1947 to 30.6.1954 ..	51,615	17,557	34,058	870,768	845,009	+25,759
30.6.1954 to 30.6.1961 ..	59,282	18,631	40,651	1,070,297	1,065,254	+ 5,043
30.6.1961 to 30.6.1966 ..	41,276	14,786	26,490	1,071,892	1,077,942	- 6,050
30.6.1966 to 30.6.1971 ..	40,554	16,317	24,237	1,467,075	1,471,663	- 4,588

(a) Numbers recorded from the March quarter of 1921.

(ii) Census Population, Intercensal Records and Intercensal Adjustment

Census Date	Population	Numbers Recorded Since Previous Census		Intercensal Adjustment (a)
		Natural Increase	Net Migration	
4.4.1921 ..	213,780	36,448	-10,265	- 3,614
30.6.1933 ..	227,599	36,781	-28,571	+ 5,609
30.6.1947 ..	257,078	38,363	-10,728	+ 1,844
30.6.1954 ..	308,752	34,058	+25,759	- 8,143
30.6.1961 ..	350,340	40,651	+ 5,043	- 4,106
30.6.1966 ..	371,436	26,490	- 6,050	+ 656
30.6.1971 ..	389,874	24,237	- 4,588	- 1,211

(a) For definition, see following section; adjustment is to reconcile increase deduced from first column with net increase recorded in second and third columns.

In general, two population estimates are made for any specific date: (i) *original* estimates for dates subsequent to a census and made before another census is taken; and (ii) *revised* estimates for each newly-completed intercensal period to adjust for the difference between the new census result and the comparable estimate. Thus, all original estimates of population for the intercensal periods from 1911 to 1966 have been revised to reconcile with the results of successive censuses from 1921 to 1966 and can be regarded as final. Estimates of population for dates after 30 June 1966 have been revised in accordance with the preliminary result of the 1971 Census but can not yet be regarded as final.

Population Estimates, Intercensal Years

The following are estimates of State population at 30 June and 31 December for successive years since 1955:

Estimated Population, 30 June and 31 December

Year	At 30 June			At 31 December		
	Males	Females	Persons	Males	Females	Persons
1955	159,861	154,231	314,092	165,356	159,563	324,919
1956	162,196	156,274	318,470	168,695	162,645	331,340
1957	165,940	160,190	326,130	172,186	166,621	338,807
1958	169,123	163,943	333,066	174,465	169,433	343,898
1959	172,097	167,279	339,376	178,109	173,240	351,349
1960 (a) ..	174,379	169,531	343,910	180,511	175,458	355,969
1961 (a) (b) ..	177,628	172,712	350,340	178,864	174,394	353,258
1962	179,966	175,702	355,668	181,085	177,002	358,087
1963	182,439	178,288	360,727	183,330	179,469	362,799
1964	184,074	180,237	364,311	185,051	181,457	366,508
1965	185,789	182,116	367,905	186,483	183,125	369,608
1966 (b) ..	187,391	184,045	371,436	188,164	185,091	373,255
1967 r	189,163	185,973	375,136	190,322	187,358	377,680
1968 r	191,225	188,209	379,434	192,792	189,994	382,786
1969 r	193,793	190,776	384,569	194,677	191,943	386,620
1970 r	195,154	192,135	387,289	196,221	193,547	389,768
1971p (b) ..	196,284	193,590	389,874	197,396	195,119	392,515

(a) Break in series; see following paragraphs.

(b) Figures at 30 June as recorded at Census.

'De Facto' and 'De Jure'

Australian censuses allot persons to the State where they happen to be at the census date (*de facto* basis) and not to the State where they normally reside (*de jure* basis); net migration, as defined and measured prior to 1961, was also on a *de facto* basis. Thus the December estimates in the table for dates prior to 1961 are consistently higher than those for the preceding June by anything from 10,000 to 15,000 persons, due to the seasonal tourist influx.

Changed Method of Estimating Population

Until the Census of 1966, the quarterly intercensal population of each State had been estimated using three components: (i) the previous census population; (ii) accumulated natural increase; and (iii) accumulated net migration. In this calculation, net migration was the total of all arrivals less all departures, recorded for shipping and aircraft (Tasmania) and for shipping, aircraft, rail and omnibus movements (other States); it therefore included overseas and interstate travel irrespective of purpose.

The changed method of estimation, introduced after the 1966 Census, still relies on the same three components but defines and measures net migration in a different way, so that holiday, business or other similar short-term movements between States are eliminated. *Intercensal estimates for the period 1961 to 1966 have been revised in accordance with the new method, and incorporate the changed concept of net migration.*

In the changed method, the State population is estimated by adding to the previous census population the natural increase and the allocation of the net gain by overseas migration for that State; gains or losses that result from movements between States are also taken into account, in so far as they are recorded as transfers of residence under child endowment procedures or Commonwealth electoral procedures, supplemented by the results of any sample surveys. Revised estimates subsequent to the 1961 Census omit the effect of holiday, business or other similar short-term movements between the States.

Mean Population

Mean populations are calculated for twelve-month periods to provide a satisfactory average basis for calculations requiring allowance for the continuous change in population figures during such periods. From 1901 onwards, the mean population for any year has been calculated by the formula:

$$\text{Mean population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where *a* is the population at the end of the quarter immediately preceding the year and *b*, *c*, *d* and *e* are the populations at the end of the quarters making up the year under consideration (e.g. in the case of a mean population for the calendar year 1972, the populations in the formula represented by *a*, *b*, *c*, *d* and *e* are those at the following dates: 31.12.1971, 31.3.1972, 30.6.1972, 30.9.1972 and 31.12.1972).

The following table shows the State's mean population on two bases: (i) for financial years; and (ii) for calendar years.

Mean Population, Financial and Calendar Years

Year	Estimated Mean Population for Year Ended—		Year	Estimated Mean Population for Year Ended—	
	30 June	31 December		30 June	31 December
1961	350,077	353,623	1967 r	373,267	375,289
1962	353,175	355,682	1968 r	377,420	379,701
1963	358,180	360,590	1969 r	382,440	384,754
1964	362,758	364,554	1970 r	386,288	387,749
1965	366,366	367,970	1971 p	389,254	390,700
1966	369,600	r371,470			

Arrivals and Departures

Earlier in this Chapter, reference was made to net migration as one factor determining the growth of the State population. Net migration, on a *de facto* basis for any period, is the difference between arrivals and departures, such movements being reported by the shipping companies and airlines. 'Arrivals' in the following table applies to all persons arriving in Tasmania from overseas or from other Australian States; it includes Tasmanians returning home. Similarly, 'departures' applies to all persons leaving Tasmania for overseas or for other Australian States; it includes visitors returning home from Tasmania. The table below shows annual arrivals and departures and also quarterly arrivals and departures for recent years, but the intercensal adjustments referred to in an earlier section have not been applied to the figures.

Recorded Arrivals and Departures: Tasmania (a)

Year			Arrivals	Departures	Quarter	Arrivals	Departures
1960	..	..	182,537	183,513	1969—March Qtr ..	83,019	88,119
1961	..	..	186,423	184,165	June Qtr ..	68,160	76,073
1962	..	..	185,268	186,023	September Qtr ..	59,045	59,574
1963	..	..	198,443	199,918	December Qtr ..	85,962	73,303
1964	..	..	219,930	223,380	1970—March Qtr ..	93,497	100,102
1965	..	..	248,964	249,617	June Qtr ..	72,885	79,630
1966	..	..	257,463	256,068	September Qtr ..	67,347	68,957
1967	..	..	270,934	271,812	December Qtr ..	87,138	74,760
1968	..	..	276,798	276,856	1971—March Qtr ..	94,843	100,923
1969	..	..	296,186	297,069	June Qtr ..	81,969	87,968
1970	..	..	320,867	323,449	September Qtr ..	68,683	70,921
1971	..	..	340,163	340,642	December Qtr ..	94,668	80,830

(a) Arrivals and departures on a *de facto* basis.

If annual arrivals and departures are added, the result may conveniently be termed 'annual movements', and a comparison of 'annual movements' over the years gives some indication of the degree to which travel and tourism have affected the State. Thus, in 1901, the year of Federation, annual arrivals and departures together totalled 51,000; in 1913, 91,800; in 1931, 58,500; in 1939, 120,200 and in 1971 almost 681,000. The increase in 'annual movements' since World War II is largely attributable to the growing use of air travel and roll-on roll-off ferries. Another factor has been industrial legislation providing for paid holidays; this has not only increased the tourist inflow but also has resulted in more Tasmanians taking holidays in other States.

The quarterly figures show a marked seasonal pattern with arrivals at their maximum in the spring and summer quarters (those ending December and March). Net migration figures on a *de facto* basis also show a seasonal pattern with substantial deviations from the quarterly average, approximating *plus* 11,000 to 13,000 persons in the December quarter; they also reflect the tourist outflow in the March quarter.

Population in Local Government Areas

The next table shows the population in cities, municipalities and statistical divisions at the Censuses of 1954, 1961, 1966, and 1971. (For a classification of population by local government areas at the 1971 Census into its urban and rural components see a later table, 'Population in Local Government Areas Classified as Urban and Rural at Census, 30 June 1971'; separate urban population components are given for Urban Hobart and Urban Launceston.) The following symbols are used in the table to indicate the Statistical Division (or Divisions) to which certain local government areas belong; (H)—Hobart Statistical Division; (S)—Southern Statistical Division; (H) (S)—parts in both Divisions.

Since publication of the 1972 *Year Book*, there has been a major change in the divisional structure; an explanation of the change will be found in Chapter 2 of this book.

Population in Local Government Areas and Statistical Divisions at 30 June

Local Government Area (Statistical Division and Sub-division in Bold Type)	Census			
	1954	1961	1966	1971 ^p
Hobart (H)	54,887	54,021	53,257	52,425
Glenorchy (H)	25,810	35,682	39,053	42,620
Clarence (H)	12,604	23,140	30,236	37,013
Brighton (H) (S)	2,570	2,115	2,207	2,329
Kingborough (H) (S)	8,335	10,025	10,322	10,767
New Norfolk (H) (S)	9,429	10,217	10,315	10,602
Sorell (H) (S)	2,391	2,878	3,309	3,609
Bothwell (S)	1,260	1,288	1,008	815
Bruny (S)	591	504	400	311
Esperance (S)	3,200	3,436	3,740	3,526
Glamorgan (S)	1,099	1,128	1,125	1,118
Green Ponds (S)	949	969	880	871
Hamilton (S)	6,143	4,178	4,329	4,033
Huon (S)	5,615	5,460	5,264	4,752
Oatlands (S)	2,914	2,691	2,501	2,131
Port Cygnet (S)	2,861	2,754	2,550	2,066
Richmond (S)	1,679	1,673	1,658	1,568
Spring Bay (S)	1,048	1,155	1,205	1,412
Tasman (S)	1,079	1,108	1,126	1,044
HOBART	144,464	164,422	141,311	153,024
SOUTHERN			33,174	29,988
Launceston	37,627	38,118	37,217	35,001
Beaconsfield	7,573	8,550	9,983	10,920
Deloraine	5,477	5,574	5,205	4,805
Evandale	1,676	1,608	1,554	1,462
George Town	2,516	3,677	5,101	6,027
Lilydale	4,583	6,744	7,841	8,301
Longford	4,345	6,762	5,354	5,132
St Leonards	7,095	11,032	13,660	16,196
Westbury	3,974	4,581	4,964	4,860
Tamar	74,866	86,646	90,879	92,704
Campbell Town	1,919	1,893	1,753	1,640
Fingal	4,418	4,475	3,791	3,438
Flinders	1,027	1,407	1,234	967
Portland	1,412	1,274	1,391	1,495
Ringarooma	3,440	3,056	2,866	2,461
Ross	680	672	617	550
Scottsdale	3,189	3,417	3,628	3,598
North Eastern	16,085	16,194	15,280	14,149
NORTHERN	90,951	102,840	106,159	106,853
Burnie	13,785	16,745	18,611	19,943
Circular Head	7,568	7,733	7,884	7,958
Devonport	11,827	14,276	16,758	19,761
Kentish	4,510	4,167	5,614	5,310
King Island	2,554	2,784	2,462	2,801
Latrobe	4,145	4,367	4,807	5,096
Penguin	3,889	4,673	4,677	4,777
Ulverstone	8,091	9,365	10,150	11,047
Wynyard	7,394	8,835	9,564	10,597
North Western	63,763	72,945	80,527	87,290

Population in Local Government Areas and Statistical Divisions at 30 June—*continued*

Local Government Area (Statistical Division and Sub-division in Bold Type)	Census			
	1954	1961	1966	1971 ^p
Gormanston	523	507	540	465
Queenstown	4,497	4,624	4,393	5,081
Strahan	574	565	470	442
Waratah	514	367	698	1,935
Zeehan	2,816	3,191	3,489	4,373
Western	8,924	9,254	9,590	12,296
MERSEY-LYELL ..	72,687	82,199	90,117	99,586
Migratory	650	879	675	423
TASMANIA	308,752	350,340	371,436	389,874

Distinction Between Urban and Rural

After the Censuses of 1954 and 1961, the Commonwealth Statistician published a population classification using the terms 'metropolitan', 'urban' and 'rural'. Delineation of the urban boundaries was subjective and the methods used were not completely comparable between States.

In order to develop an objective definition of 'urban' and 'rural' areas, Dr G. J. R. Linge of the Australian National University was commissioned by the Commonwealth Statistician to make a report.

At the 27th Conference of Statisticians in 1965, the following resolutions relating to the delimitation of urban areas based substantially on Dr Linge's report were passed:

- (i) (a) That the concept of an *inner* and *outer* boundary around each of the State capitals and other cities with an urban population of at least 75,000 and a regional population of at least 100,000 be adopted; and
- (b) that the inner boundary be drawn to delimit the extent of urban development at each Census and it should, therefore be a moving boundary to be adjusted after each Census, except that any State may extend the inner boundary during intercensal years to encompass significant and well-defined peripheral population growth; and
- (c) that the outer boundary be designed to contain the anticipated urban development of a city for a period of at least 20 to 30 years.
- (ii) (a) That an urban boundary be defined as soon as possible for all other settlements with a population of 1,000 or more; and
- (b) that State, Statistical Division, Local Government Area, and other boundaries be ignored in delimiting these urban areas.
- (iii) That urban boundaries be defined so as to include all contiguous census collectors' districts which have a population density of 500 or more per square mile (subject to certain special rules).

Effect of Change in Tasmania

The resolution previously quoted as (i) affected only one centre in Tasmania since only the Hobart area has 'an urban population of at least 75,000 persons and a regional population of at least 100,000'. Resolutions (ii) and (iii) affected all other cities and towns, including Launceston. The concept of ringing the capital city with two statistical boundaries, an inner and an outer, was discussed in depth in the 1968 and 1969 *Year Books*. The following section broadly outlines the current situation in Tasmania.

Population Centred on Hobart

The Basic Criterion (1966 and 1971 Censuses)

The basic criterion adopted for the delimitation of urban boundaries was *population density* as applied to small areas. As urbanisation increases, the change from rural to urban uses is accompanied by increasing population density. Extensive field investigations have shown that areas at the fringe, which have largely lost their rural characteristics and are developing towards urbanisation, have densities varying over only a small range. The adoption of a specific density from within that range provided a criterion which adequately delimits urban boundaries, and which can be applied objectively, uniformly, easily and without undue delay. *The criterion adopted was a density of 500 or more persons per square mile.* The geographic units classified according to the density criterion are census collectors' districts, the smallest units available. These areas vary in size and shape, but as far as possible they have been designed to ensure that significant urban development in large rural collectors' districts is split off as a separate collectors' district.

Rigid application of the 500-person density criterion in every case would have created non-urban enclaves in obviously urban areas, e.g. sports grounds, industrial sites, etc., so special rules had to be formulated. The special rules are set out in the 1968 *Year Book*.

The Two-Boundary Concept

For the purposes of presenting the results of the 1966 and 1971 Censuses, *two* boundaries around Hobart were drawn:

(i) a fixed *Outer Boundary (Hobart Statistical Division)* enclosing the area of expected urban growth during the next 20 to 30 years (broadly this comprises the cities of Hobart and Glenorchy, Clarence municipality and parts of Kingborough, New Norfolk, Brighton and Sorell municipalities); and

(ii) a flexible *Inner Boundary (Urban Hobart)* which moves outwards towards the Outer Boundary as urbanisation develops. This area in 1966 comprised the continuous area of urban development from Taroona in the south to Granton in the north and the eastern shore suburbs from Risdon Vale southward to Trammere (the area includes only contiguous urban portions of the cities of Hobart and Glenorchy and of the municipalities of Clarence and Kingborough). In 1971 Rokeby was added to the area.

A detailed account of the *Two-Boundary Concept* was included in the 1968 and 1969 *Year Books*.

The Hobart Statistical Division

The next table shows the population of the components of the *Hobart Statistical Division* at the Census of 1971, and also gives comparative figures from the Census of 1966.

Population of Hobart Statistical Division (a)

Components	Census, 30 June 1966	Census, 30 June 1971 ^p			Intercensal Increase	
	Persons	Males	Females	Persons	Persons	Per Cent
Urban Hobart	119,469	63,967	65,841	129,808	10,339	8.65
Other Urban Centres—						
Urban New Norfolk ..	5,770	3,449	3,390	6,839	1,069	18.53
Urban Kingston ..	3,263	1,831	1,842	3,673	410	12.57
Urban Sorell-Midway Pt	1,652	1,003	1,007	2,010	358	21.67
Urban Lauderdale ..	916	662	659	1,321	405	44.21
Total Other Urban	11,601	6,945	6,898	13,843	2,242	18.71
Total Urban	131,070	70,912	72,739	143,651	12,581	9.60
Rural	10,241	4,817	4,556	9,373	—868	—8.48
Total Hobart Statistical Division..	141,311	75,729	77,295	153,024	11,713	8.29

Population Centred on Launceston

Population of Launceston and Suburbs

In 1891 the Tasmanian Government Statistician first published figures for an area called *Launceston and Suburbs* which comprised Launceston City plus the urban areas of surrounding municipalities, a practice continued until 1966. In 1966, to coincide with the population census, the new terminology *Urban Launceston* was adopted in lieu of *Launceston and Suburbs*; however, at the time of this change, the *Urban Launceston* boundary differed very little from that of the former *Launceston and Suburbs*.

Urban Launceston's population at 30 June was: 1961 Census, 56,465 persons; 1966 Census, 60,456; 1971 Census, 62,181.

Urban and Rural Population of Tasmania

The next table has been compiled to show a dissection of each local government area into urban and rural components; *Urban Hobart* and *Urban Launceston* are specified separately but it should be noted that these two areas are identical in statistical concept with other urban localities.

The localities classified as urban had to have populations exceeding 1,000 persons and a population density of 500 or more per square mile but special rules applied to holiday resorts where housing density was taken into account. The urban rural dissection for Tasmania follows:

Population in Local Government Areas Classified as Urban and Rural at Census, 30 June 1971

Local Government Area (Statistical Division and Sub-division in Bold Type)	Total	Rural	Urban Hobart	Urban Launceston	Other Urban (a)
Hobart (H)	52,425	683	51,742	..	..
Glenorchy (H)	42,620	985	41,635	..	..
Clarence (H)	37,013	2,109	33,583	..	1,321
Brighton (H) (S)	2,329	2,329	..	..	..
Kingborough (H) (S)	10,767	4,246	2,848	..	3,673
New Norfolk (H) (S)	10,602	3,763	..	..	6,839
Sorell (H) (S)	3,609	1,599	..	..	2,010
Bothwell (S)	815	815	..	..	..
Bruny (S)	311	311	..	..	..
Esperance (S)	3,526	3,526	..	..	..
Glamorgan (S)	1,118	1,118	..	..	..
Green Ponds (S)	871	871	..	..	..
Hamilton (S)	4,033	4,033	..	..	..
Huon (S)	4,752	4,752	..	..	..
Oatlands (S)	2,131	2,131	..	..	..
Port Cygnet (S)	2,066	2,066	..	..	..
Richmond (S)	1,568	1,568	..	..	..
Spring Bay (S)	1,412	1,412	..	..	..
Tasman (S)	1,044	1,044	..	..	..
HOBART	153,024	9,373	129,808	..	13,843
SOUTHERN	29,988	29,988	..	..	..
Launceston	35,001	..	..	35,001	..
Beaconsfield	10,920	5,309	..	4,742	869
Deloraine	4,805	2,989	..	..	1,816
Evandale	1,462	1,403	..	59	..
George Town	6,027	1,190	..	..	4,837
Lilydale	8,301	2,229	..	6,072	..
Longford	5,132	2,312	..	..	2,820
St Leonards	16,196	909	..	15,287	..
Westbury	4,860	3,840	..	1,020	..
Tamar	92,704	20,181	..	62,181	10,342

Population in Local Government Areas Classified as Urban and Rural at Census, 30 June 1971—*continued*

Local Government Area (Statistical Division and Sub-division in Bold Type)	Total	Rural	Urban Hobart	Urban Launceston	Other Urban (a)
Campbell Town	1,640	1,640	..	..	..
Fingal	3,438	3,438	..	..	..
Flinders	967	967	..	..	..
Portland	1,495	1,495	..	..	..
Ringarooma	2,461	2,461	..	..	..
Ross	550	550	..	..	..
Scottsdale	3,598	1,798	..	..	1,800
North Eastern ..	14,149	12,349	..	..	1,800
NORTHERN ..	106,853	32,530	..	62,181	12,142
Burnie	19,943	2,621	..	..	17,322
Circular Head	7,958	4,755	..	..	3,203
Devonport	19,761	1,611	..	..	18,150
Kentish	5,310	5,310	..	..	..
King Island	2,801	2,801	..	..	..
Latrobe	5,096	2,645	..	..	2,451
Penguin	4,777	2,490	..	..	2,287
Ulverstone	11,047	3,042	..	..	8,005
Wynyard	10,597	3,818	..	..	6,779
North Western ..	87,290	29,093	..	..	58,197
Gormanston	465	465	..	..	..
Queenstown	5,081	97	..	..	4,984
Strahan	442	442	..	..	..
Waratah	1,935	767	..	..	1,168
Zeehan	4,373	516	..	..	3,857
Western	12,296	2,287	..	..	10,009
MERSEY-LYELL ..	99,586	31,380	..	..	68,206
Migratory	423	..	..	..	..
TASMANIA ..	389,874	103,271	129,808	62,181	94,191

(a) Details of 'Other Urban' localities and of Urban Hobart and Urban Launceston are given in the next section.

Details of Urban Localities

In the previous table, each local government area has been dissected to show the distribution of its population, the final column reading 'Other Urban'. The next table gives details of the localities classified as urban (but excludes Urban Hobart and Urban Launceston).

Populations in Localities Classified as Urban (Excluding Urban Hobart and Urban Launceston)
at Census of 30 June 1971

Locality Classed as Urban (a)	Local Government Area (b)	Persons in Urban Locality	Locality Classed as Urban (a)	Local Government Area (b)	Persons in Urban Locality
Beauty Point (c) ..	Beaconsfield ..	869	Penguin	Penguin	2,287
Burnie-Somersset ..	Burnie	17,322	Perth	Longford	1,108
Burnie-Somersset ..	Wynyard	2,766	Queenstown ..	Queenstown ..	4,984
Deloraine	Deloraine	1,816	Rosebery	Zeehan	2,381
Devonport	Devonport ..	18,150	Savage River ..	Waratah	1,168
George Town	George Town ..	4,837	Scottsdale	Scottsdale ..	1,800
Kingston	Kingborough ..	3,673	Smithton	Circular Head ..	3,203
Latrobe	Latrobe	2,451	Sorell-Midway Pt	Sorell	2,010
Lauderdale	Clarence	1,321	Ulverstone ..	Ulverstone ..	8,005
Longford	Longford	1,712	Wynyard	Wynyard	4,013
New Norfolk	New Norfolk ..	6,839	Zeehan	Zeehan	1,476

(a) Population exceeding 1,000 persons and with a population density of 500 or more per square mile.

(b) See previous table for *total* population of Local Government Area.

(c) Defined as *urban* under special rules relating to *holiday resort areas*.

An analysis of the Hobart Statistical Division according to its urban and rural areas follows:

Population of the Hobart Statistical Division at Census of 30 June 1971

Local Government Area	Total	Rural	Urban Hobart	Other Urban	Locality Classified as Other Urban
Hobart	52,425	683	51,742	..	..
Glenorchy	42,620	985	41,635	..	..
Clarence	37,013	2,109	33,583	1,321	Lauderdale
Brighton (Part)	1,333	1,333	..	..	..
Sorell (Part)	2,550	540	..	2,010	Sorell-Midway Point
Kingborough (Part) ..	9,740	3,219	2,848	3,673	Kingston
New Norfolk (Part) ..	7,343	504	..	6,839	New Norfolk
Total Hobart Division	153,024	9,373	129,808	13,843	..

A similar analysis of Launceston and the local government areas enclosing it appears below:

Population of Launceston and Surrounding Local Government Areas at Census of 30 June 1971

Local Government Area	Total	Rural	Urban Launceston	Other Urban	Locality Classified as Other Urban
Launceston	35,001	..	35,001	..	..
Beaconsfield	10,920	5,309	4,742	869	Beauty Point (a)
Evandale	1,462	1,403	59	..	..
Lilydale	8,301	2,229	6,072	..	..
St Leonards	16,196	909	15,287	..	..
Westbury	4,860	3,840	1,020	..	..
Total	(b)	(b)	(b)62,181	(b)	..

(a) Defined as *urban* under the special rules relating to *holiday resort areas*.

(b) Included as part of Tamar Statistical Sub-division.

Australian Comparison

The next table compares the proportions of urban and rural population of the Australian States at the Census of 30 June 1971. (In the table, Urban Launceston is included with 'Other Urban'.)

Proportion of Urban and Rural Population, Australian States and Territories at Census of 30 June 1971 (Per Cent)

Classification	Proportion of Total Population of State or Territory								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Urban—									
Capital City	59.20	68.33	44.80	69.02	62.26	33.29	41.26	98.00	60.32
Other	29.35	19.39	34.56	15.59	19.11	40.11	23.16	..	25.23
Rural	11.32	12.22	20.43	15.24	18.37	26.49	35.21	2.00	14.32
Migratory	0.13	0.06	0.21	0.15	0.26	0.11	0.37	..	0.13
Total	100.00	100.00	100.00	100.00	100.00	100.0	100.00	100.00	100.00

Tasmania's proportion of population in the 'capital city' urban area is less than for any other State. This is explained by the fact that Tasmania has a second major urban centre, Launceston, in the north.

VITAL STATISTICS

Historical

In 1839, John Montagu, Colonial Secretary of Van Diemen's Land, submitted to the Governor, Sir John Franklin, a series of statistical returns; below is shown part of Return No. 17 relating to births, deaths and marriages:

Vital Statistics of Van Diemen's Land

Year	Births	Deaths	Marriages
1824	177	132	75
1828	309	250	120
1829	301	260	166
1830	460	270	163
1831	422	282	114
1833	455	379	257
1834	714	557	370
1835	730	525	356
1836	684	443	496
1837	754	597	381
1838	717	403	331

The complete table covers the period 1824-1838 but entries for 1825, 1826, 1827 and 1832 read 'No Returns'. In a commentary for the Governor's guidance, Montagu wrote: 'I would also observe that the number of births and deaths are those only returned by ministers of the Church of England, and the former column refers to those only who have been christened, and although the number of deaths must be near the truth, yet the actual number of births has been very much under-stated'. Thus even though the Tasmanian record of births, deaths and marriages covers a period of 140 years, these early figures cannot be accepted as complete.

Registration Provisions

Franklin's Legislative Council had passed in 1838 *An Act for Registering Births, Deaths and Marriages in the Island of Van Diemen's Land and its Dependencies*. This provided for a Registrar in Hobart with subordinate Deputy Registrars in registration districts throughout the colony; they were to record births and deaths and report them to the Registrar. Ministers celebrating marriage were required to report direct to the Registrar; Deputy Registrars could also officiate and had certain licensing functions. As late as 1867, the Government Statistician complained that accurate death rates could not be compiled because Section 22 of the 1838 Act excluded the registration of the death of any prisoner of the Crown serving an unexpired sentence of transportation. In 1868, he reported that the death rate could be accepted as correct since 'only one transported offender died during the year'. This would certainly suggest that *total* deaths for the island were not recorded for the years 1839 to 1866.

From 1857 to 1882, the Registrar of the Supreme Court was also Registrar of Births, Deaths and Marriages; from 1882 to 1919, the Government Statistician was the Registrar; from 1919, the Registrar-General's Department operated as a separate entity.

The Registrar-General

The principal Act under which the Registrar-General operates is the *Registration of Births and Deaths Act* 1895, as amended, which provides for District Registrars and the appointment of a Registrar-General to be responsible for the maintenance of central registers; in essence, the regional approach of the 1838 Act is retained. The functions of the Registrar-General in relation to the registration of marriages were last defined in the *Marriage Act* 1942. However, in 1961, the Commonwealth Parliament passed the *Marriage Act* 1961. A few minor provisions (relating mainly to certain extensions of the application of the prohibited degrees) came into

operation on the date the Act received the Royal Assent (6 May 1961) and the remainder of the Act came into operation on 1 September 1963. On this date, the Act superseded the marriage laws of all the States but did not affect the essential function of the Registrar-General in the central registration of marriages.

At the office of the Registrar-General, there is kept a collection of all registrations made since 1839, as well as church records for earlier periods.

Summary of Principal Statistics

The principal numbers and rates relating to vital statistics in Tasmania for recent years are given in the following table (rates have been revised for the intercensal years 1966-1970):

Summary of Vital Statistics

Year	Number of—				Rate per 1,000 of Mean Population			Infant Mortality (Deaths Under One Year per 1,000 Live Births)
	Marriages	Live Births	Deaths	Infant Deaths (a)	Marriages	Live Births	Deaths	
1961	2,677	8,982	2,789	151	7.57	25.40	7.89	16.8
1962	2,485	8,894	2,870	184	6.99	25.01	8.07	20.7
1963	2,579	8,530	2,818	153	7.15	23.66	7.82	17.9
1964	2,869	8,252	3,174	166	7.87	22.64	8.71	20.1
1965	2,888	7,535	3,043	125	7.85	20.48	8.27	16.6
1966	2,946	7,401	3,159	108	7.93	r 19.92	8.50	14.6
1967	3,213	7,547	3,228	130	r 8.56	r 20.11	r 8.60	17.2
1968	3,426	8,317	3,284	143	r 9.02	r 21.90	r 8.65	17.2
1969	3,532	8,445	3,309	139	r 9.18	r 21.95	r 8.60	16.5
1970	3,535	8,185	3,174	116	r 9.12	r 21.11	r 8.19	14.2
1971	3,578	8,321	3,295	114	9.16	21.30	8.43	13.7

(a) Deaths under one year; included also in total deaths.

Crude Rate Comparisons

The rates per 1,000 of mean population for births, deaths and marriages are referred to as *crude* rates. It will be seen, in regard to marriages, that not *all* the population is 'at risk', children and those already married being obvious excluded examples. Similarly, births are clearly events related to certain fertile age groups of women and not to the total population; births also are directly related to the number of married persons and to the age structure of the married proportion of the community. Finally, deaths have a definite relationship with the numbers of each sex and the age structure of the community. Crude rates are valid measures of comparison in the short term only.

Subject to this limitation, the following Tasmanian historical comparisons exist as from 1880:

1. Crude Marriage Rate: highest 10.51 (1946); lowest 5.50 (1895 and 1896).
2. Crude Birth Rate: highest 36.63 (1884); lowest 19.39 (1935).
3. Crude Death Rate: highest 17.41 (1883); lowest 7.70 (1960).

It is probably significant that 1946 was the year of rapid demobilisation after World War II and that a similar marriage trend was recorded for 1919 and 1920 after World War I. As to the minima for marriage and birth rates, the 1890s and 1930s were decades characterised by severe economic depression. The crude birth rate for 1966 (19.91 per 1,000 of mean population) is not far above the State's lowest figure recorded in the 20th century (i.e. 19.39 in 1935). There is, of course, no suggestion that 1966 was a year of economic depression and the popularly accepted

theory attributes the low figure to deliberate family planning. However, other factors are operative, the principal being the age composition of the female population. Girls born in the immediate post-war period have now entered the ranks of those likely to marry and this has increased the number of potentially fertile women. The crude birth rate for 1971 was 21.30, the previous year's rate being 21.11.

The effect of the post-war increase in births on the number of potentially fertile women may be inferred from the following table:

Pre-War, War-Time and Post-War Female Births

Year	Number	Year	Number	Year	Number
Pre-War—		War-Time—		Post-War—	
1934	2,127	1940	2,425	1946	3,287
1935	2,211	1941	2,574	1947	3,517
1936	2,226	1942	2,612	1948	3,452
1937	2,359	1943	2,677	1949	3,532
1938	2,366	1944	2,503	1950	3,490
1939	2,409	1945	2,882	1951	3,553
				1952 (a)	3,790

(a) Survivors in 1973 are females aged 21 years.

Review of Infant Mortality

Infant mortality relates to the number of deaths *under one year* and the rate is expressed as the number of such deaths per 1,000 live births. It follows that comparisons over long periods of time are valid and not affected by the limitations attached to crude rates. In the following record of infant mortality, the drop in rates has been dramatic with 1971 showing the lowest rate yet experienced.

Infant Mortality Rate (Deaths under One Year Per 1,000 Live Births) Selected Years from 1880

Year	Rate	Year	Rate	Year	Rate
1880	112.3	1920	65.5	1960	19.1
1890	105.6	1930	50.6	1969	16.5
1900	80.0	1940	35.2	1970	14.2
1910	101.7	1950	23.8	1971	13.7

The peak year since 1880 was 1883 with a rate of 124.0. In the period 1880-1910, the annual infant mortality rate exceeded 100 on fourteen occasions. There has been a steady improvement in infant mortality rates over the past 50 years. The rate for the period 1916-1920 was 64, for the year 1961, 16.8, and in 1971 a record minimum of 13.7 was achieved.

At the turn of the century, 20 to 25 per cent of all deaths were those of infants under one year. The rapid fall in infant mortality rates had a marked effect on the crude death rates as infant deaths are a component of total deaths. Infant mortality has fallen largely due to advances in medical science enabling the control of disease and the development of techniques to reduce perinatal deaths as well as improvements in child care and nutrition.

Marriages

The following table summarises the number of marriages and the crude marriage rate since 1880:

Marriages and Crude Marriage Rates, Selected Years from 1880

Year	Marriages		Year	Marriages	
	Number	Crude Rates (a)		Number	Crude Rates (a)
1880	840	7.39	1940	2,476	10.27
1890	954	6.66	1950	2,560	9.18
1900	1,332	7.72	1960	2,713	7.82
1910	1,493	7.82	1969	3,532	r 9.18
1920	1,999	9.50	1970	3,535	r 9.12
1930	1,450	6.56	1971	3,578	9.16

(a) Number of marriages per 1,000 of mean population.

A feature of recent years has been the increase in the proportion of marriages which involve minors, as shown in the following table:

Marriages of Minors

Year	Age in Years						Total Minors	
	15	16	17	18	19	20	Number	Percentage of all Marriages

BRIDEGROOMS

1967	1	3	107	220	329	660	20.54
1968 .. ..	..	8	120	215	317	660	19.26
1969 .. ..	..	5	130	214	309	658	18.63
1970 .. ..	..	6	160	235	348	749	21.19
1971	1	8	111	244	362	726	20.29

BRIDES

1967	2	102	232	354	444	516	1,650	51.35
1968	3	119	234	384	482	559	1,781	51.98
1969	2	96	236	396	521	517	1,768	50.06
1970	2	111	269	425	541	505	1,853	52.42
1971	2	120	247	437	557	534	1,897	53.02

The following table gives the average age of brides and bridegrooms in recent years:

Average Age of Bridegrooms and Brides
(Years)

Particulars	1966	1967	1968	1969	1970	1971
Average Age of Bridegrooms—						
Bachelors	24.44	24.33	24.06	24.10	23.85	24.01
Widowers	57.55	56.29	58.07	54.85	56.87	55.46
Divorcees	40.87	41.70	40.73	40.47	39.75	38.73
All Bridegrooms	26.88	26.13	25.97	25.79	25.81	26.02
Average Age of Brides—						
Spinsters	21.50	21.39	21.36	21.36	21.38	21.24
Widows	51.59	48.57	50.47	48.23	49.03	48.59
Divorcees	38.84	36.42	37.35	37.27	35.47	35.66
All Brides	23.84	23.14	23.12	23.03	22.96	23.14

The next table analyses the ages of all bridegrooms and brides contracting marriages:

Age of Bridegrooms and Brides, 1971

Age (Years)	Bridegrooms		Brides	
	Number	Per Cent of Total	Number	Per Cent of Total
Under 20	364	10.17	1,363	38.09
20-24	2,021	56.48	1,584	44.27
25-29	634	17.72	293	8.19
30-34	206	5.76	89	2.49
35-39	97	2.71	56	1.57
40-44	75	2.10	50	1.40
45-49	48	1.34	52	1.45
50-54	41	1.15	25	0.70
55-59	31	0.87	28	0.78
60-64	28	0.78	13	0.36
65 and Over	33	0.92	25	0.70
Total	3,578	100.00	3,578	100.00

In the next table, the conjugal condition of persons marrying is shown for a six-year period:

Conjugal Condition of Persons Marrying

Year	Bridegrooms			Brides			Total Marriages
	Bachelors	Widowers	Divorcees	Spinsters	Widows	Divorcees	
1966 ..	2,636	125	185	2,634	117	195	2,946
1967 ..	2,952	85	176	2,930	114	169	3,213
1968 ..	3,138	99	189	3,126	118	182	3,426
1969 ..	3,252	96	184	3,234	103	195	3,532
1970 ..	3,202	95	238	3,236	101	198	3,535
1971 ..	3,214	109	255	3,224	129	225	3,578

The numbers of marriages performed according to the rites of the principal religious denominations and of civil marriages contracted before registrars are shown for recent years in the next table. Almost 13 per cent of all marriages in 1966 were civil marriages contracted before registrars. In 1971 the figure reached 14.7 per cent of all marriages.

Marriages, Religious and Civil

Particulars of Celebration	1966	1967	1968	1969	1970	1971
Religious Rites—						
Church of England ..	1,097	1,299	1,433	1,483	1,431	1,359
Catholic	652	690	732	759	738	757
Presbyterian	141	147	144	148	160	150
Methodist	416	434	417	444	477	498
Congregational .. .	47	44	39	52	45	43
Baptist	79	83	91	90	97	86
Churches of Christ ..	19	20	16	25	23	19
Salvation Army .. .	17	19	32	25	23	17
Seventh-day Adventist	11	9	14	12	7	12
Other	92	83	83	80	90	112
Civil Ceremonies (a) ..	375	385	425	414	444	525
Total	2,946	3,213	3,426	3,532	3,535	3,578

(a) Marriages contracted before registrars.

Divorce

Divorce in Tasmania was provided for under the *Matrimonial Causes Act* 1860, as amended. However, as from 1 February 1961, Australia came under a uniform divorce law, the *Matrimonial Causes Act* 1959 of the Commonwealth Parliament having come into effect on that date.

In 1971 dissolutions of marriage represented 12.07 per cent of the number of marriages contracted for that year (432 dissolutions compared with 3,578 marriages). The increase in the number of dissolutions is illustrated in the historical table which follows:

Dissolutions of Marriage Granted, (a) Summary from 1881

Decade Ending—	Maximum in Decade		Minimum in Decade	
	Year	Number	Year	Number
1890	1886	6	1884	..
1900	1894	6	1896	3
1910	1909	13	1904	2
1920	1920	18	1916	2
1930	1928	55	1924	20
1940	1938	109	1937	30
1950	1949	266	1942	83
1960	1954	233	1958	176
1970	1970	426	1964	230

(a) Includes nullities of marriage and judicial separations.

The following table gives the number of petitions filed by husbands and wives respectively, and the number of dissolutions of marriage during the last six years. Every decree of dissolution of marriage is, in the first instance, a decree *nisi* and is normally made absolute after a period of three months.

Petitions Filed and Dissolutions Granted

Particulars	1966	1967	1968	1969	1970	1971
Petitions for Dissolution (a) Filed By—						
Husband	156	151	198	202	224	221
Wife	201	169	210	227	279	267
Total Petitions	357	320	408	429	503	488
Dissolutions (a) Granted on Petition of—						
Husband	142	96	154	159	187	198
Wife	177	152	149	172	239	234
Total Dissolutions	319	248	303	331	426	432

(a) Includes nullities of marriage and judicial separations.

The next table contains separate details of petitions filed for dissolutions and nullities:

Petitions Filed, 1971

Petition For	Petitioner		Total
	Husband	Wife	
Dissolution	221	261	482
Nullity .. .. .	..	6	6
Total	221	267	488

The table that follows analyses the grounds on which dissolutions were granted:

Dissolutions (a) Granted According to Grounds, 1971

Grounds	Petitioner		Total
	Husband	Wife	
Single Ground—			
Desertion	76	74	150
Adultery	80	71	151
Separation	39	59	98
Cruelty .. .. .	..	13	13
Drunkenness	1	7	8
Other	1	5	6
Dual Grounds—			
Desertion and Adultery	1	1	2
Desertion and Separation .. .. .	..	2	2
Cruelty and Drunkenness .. .. .	..	..	..
Other .. .. .	..	2	2
Total	198	234	432

(a) Includes nullities of marriage and judicial separations.

The more frequent grounds for the granting of dissolutions in recent years are shown in the next table:

Dissolutions (a) Granted According to Principal Grounds: Summary

Grounds	1966	1967	1968	1969	1970	1971
On Petition of Husband—						
Adultery	33	18	49	61	74	80
Desertion	69	44	59	74	72	76
Separation	27	24	32	17	34	39
Other	13	10	14	7	7	3
On Petition of Wife—						
Adultery	25	23	36	43	73	71
Desertion	72	65	54	70	74	74
Separation	47	38	37	38	59	59
Other	33	26	22	21	33	30
Total	319	248	303	331	426	432

(a) Includes nullities of marriage and judicial separations.

An analysis is made of the ages of the parties in the table below:

Dissolutions of Marriage 1971 (a): Ages of Parties at time of Dissolution

Age of Husband (Years)	Age of Wife (Years)							Total Husbands
	Under 20	20-29	30-39	40-49	50-59	60 and Over	Not Stated	
Under 20
20-29	116	4	..	..	..	1	121
30-39	61	70	4	..	..	1	136
40-49	3	38	50	3	..	..	94
50-59	2	24	33	3	..	62
60 and Over	2	12	4	..	18
Not Stated	1	..	..	..	1
Total Wives	180	114	81	48	7	2	432

(a) Includes nullities of marriage and judicial separations.

The duration of marriage and issue are analysed below:

Dissolutions of Marriage, 1971 (a): Duration of Marriage and Issue

Duration of Marriage (Years)	Dissolutions of Marriages with—						Total Marriages Dissolved	Total Number of Children (b)
	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children		
0-4	34	16	4	1	..	..	55	27
5-9	37	43	38	8	1	..	127	147
10-14	8	15	30	20	8	2	83	177
15-19	11	9	10	18	7	6	61	143
20-24	7	7	12	7	7	7	47	119
25-29	8	5	3	1	1	4	22	41
30-34	20	5	1	..	1	..	27	11
35-39	6	1	..	..	..	..	7	1
40-44	1	..	..	..	..	..	1	..
45 and Over ..	2	..	..	..	..	..	2	..
Total	134	101	98	55	25	19	432	666

(a) Includes nullities of marriage and judicial separations.

(b) Under 21 years of age.

Births

The following table summarises births and crude birth rates from 1880:

Number of Births and Crude Birth Rates, Selected Years from 1880

Year	Births		Year	Births	
	Number	Per 1,000 of Mean Population		Number	Per 1,000 of Mean Population
1880	3,739	32.90	1930	4,785	21.66
1885	4,637	36.29	1935	4,456	19.39
1890	4,813	33.60	1940	4,994	20.71
1895	4,790	31.16	1945	5,785	23.27
1900	4,864	28.18	1950	7,242	25.96
1905	5,257	28.50	1955	8,089	25.63
1910	5,586	29.25	1960	8,853	25.52
1915	5,845	29.78	1965	7,535	20.48
1920	5,740	27.29	1970	8,185	21.11
1925	5,218	24.21	1971	8,321	21.30

Number of Births Classified According to Age of Mother, and Crude Birth Rates

Age Group of Mothers (Years)	1966	1967	1968	1969	1970	1971
10-14	1	6	7	1	6	9
15-19	1,113	1,091	1,163	1,201	1,175	1,153
20-24	2,586	2,749	3,206	3,259	3,127	3,277
25-29	2,000	2,064	2,272	2,346	2,328	2,364
30-34	980	997	1,033	1,037	999	1,013
35-39	541	471	468	464	420	374
40-44	168	159	160	125	120	120
45 and Over ..	12	10	8	12	10	11
Total	7,401	7,547	8,317	8,445	8,185	8,321
Crude Birth Rate (a) ..	r 19.92	r 20.11	r 21.90	r 21.95	r 21.11	21.30

(a) Births per 1,000 of mean population

One observation of interest is that births of males, in total, usually exceed those of females. The next table shows births by sex and indicates masculinity:

Births by Sex and Masculinity

Particulars	1966	1967	1968	1969	1970	1971
Births of—						
Males	3,753	3,870	4,288	4,337	4,232	4,205
Females	3,648	3,677	4,029	4,108	3,953	4,116
Total	7,401	7,547	8,317	8,445	8,185	8,321
Masculinity (a)	102.88	105.25	106.43	105.57	107.06	102.16

(a) Number of male births per 100 female births.

In the following table, births are analysed by sex and by the age of the mother and classified as nuptial or ex-nuptial:

Births by Sex, Age of Mother and Nuptial State, 1971

Age Group of Mothers (Years)	Nuptial Births		Ex-Nuptial Births		All Births		
	Male	Female	Male	Female	Male	Female	Total
10-14 ..	..	..	4	5	4	5	9
15-19 ..	413	416	154	170	567	586	1,153
20-24 ..	1,527	1,515	124	111	1,651	1,626	3,277
25-29 ..	1,159	1,127	40	38	1,199	1,165	2,364
30-34 ..	503	459	24	27	527	486	1,013
35-39 ..	185	173	4	12	189	185	374
40-44 ..	57	55	2	6	59	61	120
45 and Over	8	2	1	..	9	2	11
Total ..	3,852	3,747	353	369	4,205	4,116	8,321

The table that follows summarises, for a six-year period, births according to whether the child was first-born or the issue of a subsequent birth:

Births of First Born and Subsequent Births; Nuptial State of Mothers

Classification of Births	1966	1967	1968	1969	1970	1971
Nuptial—						
First Born (a)	2,234	2,337	2,721	2,731	2,641	2,691
Subsequent Birth	4,643	4,648	4,939	5,067	4,894	4,908
Ex-Nuptial	524	562	657	647	650	722
Total Births ..	7,401	7,547	8,317	8,445	8,185	8,321
Ex-Nuptial Births as Percentage of Total Births..	7.1	7.4	7.9	7.7	7.9	8.7

(a) In case of multiple births with no previous issue, first child born alive is recorded as 'First Born' and subsequent child or children as 'Subsequent Birth'.

It should be noted that 'First Born' in the previous tables refers specifically to the union from which the child originates; thus a mother married for the second time could be credited with a 'First Born' child despite issue from the previous union.

Birth Rates

The *crude birth rate* is expressed as the number of births per 1,000 of mean population; this is obviously an unsatisfactory measure since births are events strictly related to the number of women in the fertile age groups. A more satisfactory index is the *fertility rate*, expressed as the number of births per 1,000 women aged 15-44 years. However, there are profound differences between the relative fertility of various age groups and a further refinement is the calculation of *age-specific birth rates*. The following table shows age-specific birth rates, the fertility rate, and crude birth rate for a six-year period:

Birth and Fertility Rates

Particulars	1965	1966	1967	1968	1969	1970
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AGE SPECIFIC BIRTH RATES (a)

Age Group of Mother (Years)—						
10-14	0.3	0.1	0.3	0.4	0.1	0.3
15-19	62.9	64.7	62.9	65.8	66.7	64.3
20-24	209.9	203.6	199.9	217.7	210.1	190.7
25-29	193.1	176.9	180.1	196.4	196.3	189.2
30-34	102.6	95.9	95.5	96.8	95.1	89.8
35-39	52.6	49.3	43.6	44.0	43.9	40.8
40-44	16.1	14.6	14.0	14.2	11.2	10.9
45-49	1.0	1.2	0.9	0.7	1.1	0.9

FERTILITY RATE (b)

Fertility Rate	104	100	100	109	108	103
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CRUDE BIRTH RATE (c)

Crude Birth Rate ..	20.5	19.9	r20.1	r21.9	r21.9	r21.1
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(a) Number of births per 1,000 women in age groups shown.

(b) Number of births per 1,000 women aged 15-44 years.

(c) Number of births per 1,000 of mean population.

From the data in the table, it is apparent that the two principal factors determining the number of births in any year are:

- (i) the age distribution of women within the fertile age groups;
- (ii) the relative fertility of women in each age group (as indicated by age-specific birth rates).

Infant Mortality

Infant mortality relates to children dying within one year of birth. The table that follows analyses such deaths in further detail and shows that the greatest mortality rate is associated with infants in their first day of life. To obtain a correct picture of relative risk, it should be noted that deaths in the 'one day and under one week' class are spread over six days; in the 'one week and under four weeks' class spread over 21 days; and in the final class, spread over 338 days.

Infant Mortality: Number of Deaths and Mortality Rates at Specific Ages

Year	Infant Deaths		Mortality Rate (a) at Age Specified			
	Number	Per 1,000 Live Births	Under 1 Day	1 Day and under 1 Week	1 Week and under 4 Wks	4 Weeks and under 12 Months
1966	108	14.6	5	4	1	4
1967	130	17.2	5	5	1	6
1968	143	17.2	6	4	1	6
1969	139	16.5	5	4	2	6
1970	116	14.2	4	4	1	5
1971	114	13.7	3	4	1	6

(a) Infant deaths per 1,000 live births; rates have been rounded to whole numbers.

Infant Mortality (a): Tasmania-Australia Comparison

State/Country	1966	1967	1968	1969	1970	1971
Tasmania	14.6	17.2	17.2	16.5	14.2	13.7
Australia	18.2	18.3	17.8	17.9	17.9	17.3

(a) Infant deaths per 1,000 live births.

Causes of Infant Deaths

The following table has been compiled on the basis of the Eighth Revision (1965) of the International Classification of Diseases (World Health Organisation).

Infant Mortality: Causes of Death Under One Year

Cause		1968	1969	1970	1971
009	Diarrhoeal Diseases	4	3	1	3
036	Meningococcal Infection	1	..	..	2
000-008 010-035 037-315	Other General Diseases (a)	3	..	2	3
320	Meningitis	1	..	1	..
321-389	Other Diseases of the Nervous System and Sense Organs	1	..	1	1
390-458	Diseases of the Circulatory System	3	1	..	..
460-466	Acute Respiratory Infections (except Influenza)	3	5	3	5
470-474	Influenza	3	..	..	..
480-486	Pneumonia	28	39	27	37
490-493	Bronchitis, Emphysema and Asthma .. .. .	..	..	..	1
500-519	Other Diseases of Respiratory System .. .. .	..	..	1	1
520-577	Diseases of the Digestive System .. .. .	..	2	3	..
580-629	Diseases of Genito-Urinary System .. .. .	..	..	..	..
680-709	Disease of Skin and Subcutaneous Tissue .. .. .	..	..	..	..
710-738	Diseases of Musculoskeletal System and Connective Tissue	1	..	..	..
740-759	Congenital Anomalies	23	20	18	14
760-763	Certain Maternal Conditions	10	3	7	2
764-768 772-776 769-771	Birth Injury, Difficult Labour and Other Anoxic and Hypoxic Conditions	23	22	22	18
773-775 777-779	Other Causes of Perinatal Mortality	36	37	28	20
780-796	Symptoms and Ill-Defined Conditions	1	..	..	1
800-999	Accidents, Poisonings and Violence	2	7	2	6
Total		143	139	116	114

(a) Principally infective and parasitic diseases.

Deaths

The following table summarises the number of deaths and crude death rates from 1880 to 1971. The table indicates a continual fall, apart from minor variations, from a death rate of 16.12 (1880) to 8.43 (1971).

Number of Deaths and Crude Death Rates, Selected Years from 1880

Year	Deaths		Year	Deaths	
	Number	Rate (a)		Number	Rate (a)
1880	1,832	16.12	1930	1,948	8.82
1885	2,036	15.94	1935	2,353	10.24
1890	2,118	14.79	1940	2,387	9.90
1895	1,811	11.78	1945	2,413	9.71
1900	1,903	11.02	1950	2,466	8.85
1905	1,844	10.00	1955	2,489	7.89
1910	2,120	11.10	1960	2,670	7.70
1915	2,015	10.27	1965	3,043	8.27
1920	2,036	9.68	1970	3,174	8.19
1925	1,996	9.26	1971	3,295	8.43

(a) Per 1,000 of mean population.

A marked difference exists between male and female crude death rates:

Male and Female Deaths and Crude Rates

Year	Number of Deaths			Deaths Per 1,000 of Mean Population			Ratio of Male to Female Crude Death Rates
	Males	Females	Persons	Males	Females	Persons	
1961 ..	1,601	1,188	2,789	8.97	6.79	7.89	1.320
1962 ..	1,622	1,248	2,870	9.01	7.10	8.07	1.269
1963 ..	1,601	1,217	2,818	8.75	6.83	7.82	1.281
1964 ..	1,797	1,377	3,174	9.76	7.64	8.71	1.277
1965 ..	1,716	1,327	3,043	9.24	7.29	8.27	1.267
1966 ..	1,726	1,433	3,159	9.21	7.79	8.50	1.182
1967 ..	1,790	1,438	3,228	9.46	7.73	8.60	1.224
1968 ..	1,906	1,378	3,284	9.96	7.31	8.65	1.363
1969 ..	1,876	1,433	3,309	9.68	7.51	8.60	1.289
1970 ..	1,785	1,389	3,174	9.14	7.22	8.19	1.266
1971 ..	1,805	1,490	3,295	9.18	7.68	8.43	1.195

In the following table the number of deaths and the crude death rates for Tasmania are compared with those of the other States.

Australian States: Number of Deaths (a)

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australia (b)
1967 ..	39,613	28,373	14,736	9,071	6,779	3,228	102,703
1968 ..	41,803	29,967	16,078	9,916	7,468	3,284	109,547
1969 ..	40,665	28,976	15,786	9,337	7,350	3,309	106,496
1970 ..	43,601	30,335	17,055	10,138	7,543	3,174	113,048
1971 ..	41,691	30,598	16,339	9,686	7,806	3,295	110,650

(a) Includes deaths of Aborigines from 1967.

(b) Includes A.C.T. and N.T.

Australian States: Crude Death Rates, Census Years (a)

State	1921	1933	1947	1954	1961	1966	1971
New South Wales	9.50	8.58	9.53	9.46	8.95	9.57	9.06
Victoria	10.52	9.59	10.44	9.20	8.37	8.90	8.73
Queensland	9.37	8.83	9.15	8.64	8.42	r 8.90	8.94
South Australia	10.02	8.44	9.62	9.02	8.06	8.54	8.24
Western Australia	10.42	8.64	9.39	8.38	7.77	r 8.13	7.59
Tasmania	10.30	9.60	9.17	8.67	7.89	8.50	8.43
Australia (b)	9.91	8.92	9.69	9.10	8.47	r 9.01	8.67

(a) Deaths per 1,000 of mean population.

(b) Includes A.C.T. and N.T.

Death Rates for Specific Age Groups

Previously in this Chapter, crude death rates were described as unsuitable for comparisons over long periods of time due to changes in the age structure of the community. In the following table, this difficulty is overcome by calculating death rates for specific age groups. The method employed is to obtain the average annual deaths for specific age groups over those three-year periods which are broken into equal parts by a census of population (e.g. 30 June 1947 is the census date for a calculation of rates in the three years, 1946-1948 inclusive). Rates can then be calculated by comparing the average number of deaths for each group with the number of persons in each group as revealed by the census. In theory, the calculation of such rates need not be restricted to periods for which a census date forms the midpoint but the advantage of accepting such restriction lies in the accuracy of the age distribution obtained from the census. In the table, three-year periods have been selected appropriate to the censuses of 1947 and 1966 (the data relate to the Tasmanian population):

Death Rates for Specific Age Groups (a)

Age Group (Years)				Males		Females		Persons	
				1946-48	1965-67	1946-48	1965-67	1946-48	1965-67
0-4	9.13	4.08	7.24	3.47	8.21	3.78			
5-9	1.15	0.47	0.69	0.39	0.92	0.43			
10-14	0.67	0.61	0.39	0.39	0.53	0.50			
15-19	1.62	1.73	1.46	0.56	1.54	1.15			
20-24	2.10	1.98	1.79	0.68	1.94	1.34			
25-29	2.12	1.50	1.74	0.71	1.93	1.11			
30-34	2.27	2.07	1.90	1.08	2.09	1.59			
35-39	3.10	2.03	2.59	1.34	2.85	1.70			
40-44	3.93	3.64	3.51	2.66	3.73	3.16			
45-49	5.88	6.32	4.66	3.65	5.28	5.00			
50-54	9.52	9.53	7.84	4.81	8.65	7.23			
55-59	16.98	16.78	10.03	8.54	13.44	12.79			
60-64	23.87	27.85	17.30	13.77	20.53	20.84			
65-69	41.82	42.24	27.35	23.15	34.56	31.90			
70-74	58.43	69.39	49.47	38.48	53.80	51.29			
75-79	103.22	91.37	77.00	68.82	89.78	78.10			
80-84	156.64	145.21	123.49	113.78	138.41	126.26			
85 and Over	292.36	235.85	220.32	213.56	250.16	221.83			

(a) Rate per 1,000 of the population in the specified age group at census date.

Causes of Death

The Eighth (1965) Revision of the International Classification of Diseases was adopted for use in 1968 but has not materially affected comparability with details based on the Seventh Revision (1955). The following table shows causes of deaths, the rates per 100,000 of mean population and the proportion of deaths from each cause.

Causes of Death: Numbers and Rates, 1971

Cause of Death	Inter-national Classification	Number of Deaths	Rate Per 100,000 of Mean Population	Percentage of Total Deaths
0-4. (a)	(a)	7	2	0.2
5. Tuberculosis of respiratory system	010-012	5	1	0.2
6. Other tuberculosis including late effects	013-019	3	1	0.1
7-16. (b)	(b)	2	1	0.1
17. Syphilis and its sequelae	090-097	..	..	..
18. All other infective and parasitic diseases	(c)	9	2	0.3
19. Malignant neoplasms—				
Digestive organs and peritoneum	150-159	180	46	5.5
Trachea, bronchus and lung	162	85	22	2.6
Breast	174	45	12	1.4
Genito-Urinary organs	180-189	96	25	2.9
Leukaemia	204-207	24	6	0.7
Other malignant and lymphatic neoplasms	(d)	122	31	3.7
20. Benign and unspecified neoplasms	210-239	3	1	0.1
21. Diabetes mellitus	250	52	13	1.6
22. Nutritional deficiencies	260-269	..	..	..
23. Anaemias	280-285	9	2	0.3
24. Meningitis	320	..	..	..
25. Active rheumatic fever	390-392	..	..	..
26. Chronic rheumatic heart disease	393-398	38	10	1.2
27. Hypertensive disease	400-404	47	12	1.4
28. Ischaemic heart disease	410-414	899	231	27.3
29. Other forms of heart disease	420-429	154	40	4.7
30. Cerebrovascular disease	430-438	496	127	15.1
31. Influenza	470-474	6	2	0.2
32. Pneumonia	480-486	121	31	3.7
33. Bronchitis, emphysema and asthma	490-493	125	32	3.8
34. Peptic ulcer	531-533	19	5	0.6
35. Appendicitis	540-543	1	..	..
36. Intestinal obstruction and hernia	{ 550-553	6	2	0.2
	560	9	2	0.3
37. Cirrhosis of liver	571	21	5	0.6
38. Nephritis and Nephrosis	580-584	31	8	0.9
39. Hyperplasia of prostate	600	7	2	0.2
40. Abortion	640-645	..	..	..
41. { Other complications of pregnancy, childbirth and the	630-639	..	..	..
puerperium. Delivery without mention of compli-				
cation	650-678	..	..	..
42. Congenital anomalies	740-759	27	7	0.8
43. { Birth injury, difficult labour and other anoxic and hypoxic	764-768	1	..	..
conditions	{ 772, 776	17	4	0.5
	760-763	2	1	0.1
	769-771	10	3	0.3
44. Other causes of perinatal mortality	{ 773-775	3	1	0.1
	777-779	8	2	0.2
45. Symptoms and other ill-defined conditions	780-796	14	4	0.4
	Remainder of			
46. All other diseases	240-738	287	74	8.7
47. Motor vehicle accidents	810-823	143	37	4.3
48. All other accidents	{ 800-807	..	..	..
	825-949	103	26	3.1
49. Suicide and self-inflicted injuries	950-959	48	12	1.5
50. All other external causes	960-999	10	3	0.3
All Causes .. .. .	..	3,295	848	100.0

(a) 000-009. (See following text for specification of diseases.)

(b) 020, 032, 033, 034, 036, 040-043, 050, 055, 080-084. (See following text for specification of diseases.)

(c) 021-027, 030, 031, 035, 037, 038, 039, 044-046, 051-054, 056, 057, 060-068, 070-079, 085-089, 098-117, 120-136.

(d) 140-149, 160, 161, 163, 170-173, 190-203, 208, 209.

It will be noted that items 0-4 and 7-16 in the table were not listed individually, few associated deaths having been recorded. The specification of causes reads: (1) Cholera; (2) Typhoid fever; (3) Dysentery, all forms; (4) Enteritis and other diarrhoeal diseases; (7) Plague; (8) Diphtheria; (9) Whooping cough; (10) Streptococcal sore throat and Scarlet fever; (11) Meningococcal infection; (12) Acute poliomyelitis; (13) Smallpox; (14) Measles; (15) Typhus and other rickettsial diseases; (16) Malaria. Uncertainty as to diagnosis in earlier periods makes comparison difficult but, at the turn of the century, Whooping cough, Diphtheria, Typhoid fever and Scarlet fever were diseases associated with numerous deaths.

The following table shows principal causes of death for recent years:

Principal Causes of Death					
Cause of Death	International Classification	1968	1969	1970	1971
Malignant neoplasms—					
Digestive organs and peritoneum ..	150-159	179	197	157	180
Trachea, bronchus and lung ..	162	80	90	82	85
Breast	174	40	38	43	45
Genito-Urinary organs ..	180-189	89	85	85	96
Leukaemia	204-207	22	14	15	24
Other malignant and lymphatic neo-plasms	(a)	83	86	100	122
Diabetes mellitus	250	51	42	69	52
Chronic rheumatic heart disease ..	393-398	30	23	39	38
Hypertensive disease	400-404	70	50	49	47
Ischaemic heart disease	410-414	924	942	934	899
Other forms of heart disease	420-429	149	168	113	154
Cerebrovascular disease	430-438	396	430	383	496
Pneumonia	480-486	150	139	112	121
Bronchitis, emphysema and asthma ..	490-493	138	146	156	125
Motor vehicle accidents	810-823	139	139	127	143
All other accidents	800-807	119	120	104	103
Suicide and self-inflicted injuries ..	825-949				
	950-959	54	51	50	48
All Causes .. .. .	..	3,284	3,310	3,174	3,295

(a) 140-149, 160, 161, 163, 170-173, 190-203, 208, 209.

Causes of Death in Age Groups

The previous tables showing causes of death make no reference to age, a complete dissection by age and cause being beyond the scope of a year book. Nevertheless, there is an extremely significant relationship between age and cause of death and the next table indicates, in summary form, their close inter-connection. For each of the specified causes in the next table, two percentages are shown: (i) deaths in a particular age group as a proportion of total deaths from all causes in that age group; (ii) deaths in a particular age group as a proportion of total deaths from the same cause at all ages. The causes chosen and specified are such that they account, in total, for approximately 75 per cent or more of deaths in most of the given age groups.

Attention is called to 'Accidental and Violent Deaths' (800-999) which account for nearly 75 per cent of deaths in the ages from 1 to 34 years inclusive. Also noteworthy is the present relative unimportance of 'Infective and Parasitic Diseases' (001-136). The most important group, in a total sense, is 'Diseases of the Heart' (390-398, 400-404, 410-429) followed by 'Cancer—All Forms' (140-209); then 'Cerebrovascular Diseases' (430-438); 'Pneumonia, Bronchitis and Influenza' (470-474, 480-486, 490-493); nevertheless, the inter-connection between age and cause of death is so close that none of these causes needs to be specified for some age groups in the table.

Principal Causes of Death in Age Groups, 1971

Age Group in Years	Inter- national Classification	Cause of Death	Death from Specified Causes in Age Groups		
			Number	Proportion of Deaths	
				In Age Group (Per Cent)	At All Ages (Per Cent)
Under 1 ..	480-486	Pneumonia	37	32.4	30.6
	776	Anoxic and hypoxic conditions	16	14.0	100.0
	740-759	Congenital anomalies	14	12.3	51.8
	770	Conditions of placenta	6	5.3	100.0
	800-999	Accidental and violent deaths	6	5.3	2.0
	..	Other causes	35	30.7	..
		All Causes	114	100.0	3.5
1-4	800-999	Accidental and violent deaths	11	52.4	3.6
	140-209	Cancer (all forms) (a)	5	23.8	0.9
	740-759	Congenital anomalies	3	14.2	11.1
	333	Familial diseases of nervous system	1	4.8	100.0
	465	Acute upper respiratory infection	1	4.8	100.0
		All Causes	21	100.0	0.6
5-14	800-999	Accidental and violent deaths	18	47.4	5.9
	140-209	Cancer (all forms) (a)	8	21.0	1.4
	270-279	Metabolic diseases	3	7.9	50.0
	345	Epilepsy	2	5.3	25.0
	..	Other causes	7	18.4	..
		All Causes	38	100.0	1.2
15-19	800-999	Accidental and violent deaths	54	88.5	17.8
	..	Other causes	7	11.5	..
		All Causes	61	100.0	1.9
20-24	800-999	Accidental and violent deaths	40	77.0	13.2
	140-209	Cancer (all forms) (a)	3	5.7	0.5
	..	Other causes	9	17.3	..
		All Causes	52	100.0	1.6
25-34	800-999	Accidental and violent deaths	35	57.4	11.5
	140-209	Cancer (all forms) (a)	9	14.8	1.6
	390-398	Diseases of heart	4	6.5	0.3
	400-404				
	410-429	Other causes	13	21.3	..
	..	All Causes	61	100.0	1.9
35-44	800-999	Accidental and violent deaths	33	35.1	10.9
	390-398	Diseases of heart	19	20.2	1.7
	400-404				
	410-429				
	140-209	Cancer (all forms) (a)	16	17.0	2.9
	430-438	Cerebrovascular diseases	8	8.5	1.6
	580-584	Nephritis and nephrosis	3	3.2	9.7
	..	Other causes	15	15.9	..
		All Causes	94	100.0	2.9

Principal Causes of Death in Age Groups, 1971—*continued*

Age Group in Years	Inter- national Classifi- cation	Cause of Death	Deaths from Specified Causes in Age Groups		
			Number	Proportion of Deaths	
				In Age Group (Per Cent)	At All Ages (Per Cent)
45-54 ..	390-398	Diseases of heart	96	34.8	8.4
	400-404				
	410-429				
	140-209	Cancer (all forms) (a)	70	25.3	12.7
	800-999	Accidental and violent deaths	32	11.6	10.5
	430-438	Cerebrovascular diseases	22	8.0	4.4
	490-493	Bronchitis, emphysema, asthma	11	4.0	8.8
	571	Cirrhosis of liver	8	2.9	38.1
	..	Other causes	37	13.4	..
		All Causes	276	100.0	8.4
55-64 ..	390-398	Diseases of heart	201	39.7	17.7
	400-404				
	410-429				
	140-209	Cancer (all forms) (a)	148	29.2	26.8
	430-438	Cerebrovascular diseases	55	10.8	11.1
	800-999	Accidental and violent deaths	19	3.8	6.2
	490-493	Bronchitis, emphysema, asthma	17	3.4	13.6
	480-486	Pneumonia	8	1.6	6.6
	..	Other causes	58	11.5	..
		All Causes	506	100.0	15.4
65-74 ..	390-398	Diseases of heart	316	41.4	27.8
	400-404				
	410-429				
	140-209	Cancer (all forms) (a)	150	19.6	27.2
	430-438	Cerebrovascular diseases	120	15.7	24.2
	490-493	Bronchitis, emphysema, asthma	39	5.1	31.2
	440-448	Diseases of arteries	22	2.9	20.2
	800-999	Accidental and violent deaths	20	2.6	6.6
	..	Other causes	97	12.7	..
		All Causes	764	100.0	23.2
75 and Over	390-398	Diseases of heart	500	38.2	43.9
	400-404				
	410-429				
	430-438	Cerebrovascular diseases	290	22.2	58.5
	140-209	Cancer (all forms) (a)	141	10.8	25.5
	440-448	Diseases of arteries	78	6.0	71.5
	480-486	Pneumonia	60	4.6	49.6
	490-493	Bronchitis, emphysema, asthma	50	3.8	40.0
	..	Other causes	189	14.4	..
		All Causes	1,308	100.0	39.7

(a) Includes Hodgkin's Disease and the Leukaemias.

Heart Diseases

As the previous two tables indicate, heart diseases (list items 390-398, 400-404, 410-429) are the greatest single cause of death. In the following record of deaths due to heart diseases, 1950 has been chosen as a start-point since earlier figures are not strictly comparable. It can be seen from the table that heart diseases account for over one-third of the 'Deaths From All Causes'.

Deaths from Heart Diseases (All Causes) (a)

Year	Number of Deaths			Death Rate Per 100,000 of Mean Population	Deaths as a Percentage of Deaths from All Causes
	Males	Females	Persons		
1950	413	304	717	257	29.1
1966	656	464	1,120	r303	35.5
1967	663	473	1,136	r299	35.2
1968	680	493	1,173	r309	35.7
1969	701	483	1,184	r312	35.8
1970	681	454	1,135	r291	35.8
1971	647	491	1,138	292	34.5

(a) List items 400-416, 420-443 to 1967, 390-398, 400-404, 410-429 from 1968.

Malignant Neoplasms

In the next table, deaths from 'Malignant Neoplasms including Hodgkin's Disease and the Leukaemias' are summarised:

Deaths from all Types of Malignant Neoplasms (a)

Year	Number of Deaths			Death Rate Per 100,000 of Mean Population	Deaths as a Percentage of Deaths from All Causes
	Males	Females	Persons		
1950	159	164	323	115	13.1
1966	251	245	496	r134	15.7
1967	302	227	529	r141	16.4
1968	273	220	493	r130	15.0
1969	282	228	510	r134	15.4
1970	253	229	482	r124	15.2
1971	284	268	552	142	16.8

(a) List item 140-207 to 1967; 140-209 from 1968.

Lung Cancer

There has been considerable interest recently in lung cancer because of its suspected connection with smoking habits. The following table shows deaths attributed to 'Malignant Neoplasm of Respiratory System' since 1950:

Deaths from Malignant Neoplasm of Respiratory System (a)

Year	Males	Females	Persons	Year	Males	Females	Persons
1950 ..	20	4	24	1964 ..	51	16	67
1957 ..	43	7	50	1965 ..	60	11	71
1958 ..	29	10	39	1966 ..	76	16	92
1959 ..	43	11	54	1967 ..	78	9	87
1960 ..	40	3	43	1968 ..	69	12	81
1961 ..	47	3	50	1969 ..	85	11	96
1962 ..	70	8	78	1970 ..	72	19	91
1963 ..	44	9	53	1971 ..	76	18	94

(a) List items 160-165 to 1967; 160-163 from 1968.

EXPECTATION OF LIFE AND LIFE TABLES

General

Previously, reference was made to the limitations of crude death rates as a measure of mortality. However, a correct measurement of the mortality of the population can be obtained from life tables.

A life table is, in effect, a mathematical model, its starting point being a hypothetical population (say 100,000) of newly-born males or females. Using data for a given period (e.g. single year age distribution of an actual population, deaths at single ages, etc.), the compiler calculates the theoretical number of survivors at each age in the hypothetical population until there are no survivors remaining.

Calculation of Life Expectancy

In the table that follows, l_x is the number of persons surviving at exact age x . From this survivors' table, other measures can then be computed, namely:

- L_x : the average number living between any year x and $x + 1$
 e°_x : the complete expectation of life (i.e. the average number of years lived after age x by each of a group of persons aged exactly x).

Not only does the l_x column give numbers of survivors at each age but, if accumulated, it gives an approximate measure of the total number of years lived by the life-table population. To obtain a more refined measure of the total number of years lived, it is necessary to accumulate L_x values. These can be obtained by averaging each consecutive pair of l_x values.

Taking the male life table for 1960-62 as an example:

- Total of all l_x values (0-105) = 6,841,916 years
 Total of all $l_x + 1$ values (1-105) = 6,741,916 years
 Therefore, total L_x values (0-105) = 6,791,916 years

According to the table, 100,000 males live a total of 6,791,916 years.

It follows, then, that the complete expectation of life (e°_x) can be taken as 67.92 years as from birth.

The above calculation shows the derivation of e°_x where x is 0. The same logic applies to all other ages:

Again taking the male life table as an example:

- Total of l_x values (10-105) = 5,865,686 years
 Total of all $l_x + 1$ values (11-105) = 5,768,624 years
 Therefore, total L_x values (10-105) = 5,817,155 years

According to the table, 97,062 males live a total of a further 5,817,155 years. It follows then, that each male aged ten has an average life expectancy of a further 59.93 years (i.e. $\frac{5,817,155}{97,062}$)

From these examples, it will be seen that e°_x is simply an average or per capita figure, the two elements involved being the total number of years lived by a given population, and the given population itself.

For the sake of brevity in the table, the following usual values have not been given:

- dx ; the number of deaths in the year of age x to $x + 1$ among the l_x persons who enter on that year.
 px ; the probability of a person aged x living a year.
 qx ; the probability of a person aged x dying within a year.

If required, these values can be computed from the tables as follows:

$$dx = l_x - l_{x+1}$$

$$px = \frac{l_x + l_{x+1}}{2}$$

and $qx = 1 - px$

The next table gives the number of survivors (l_x values) and complete expectation of life (e^o_x values) for Australian males:

Australia: Life Tables, 1960-62
Survivors (l_x) and Complete Expectation of Life (e^o_x)
Males

Age x	l_x	e^o_x	Age x	l_x	e^o_x	Age x	l_x	e^o_x
0.. ..	100,000	67.92	35.. ..	93,931	36.45	70.. ..	54,944	9.77
1.. ..	97,761	68.46	36.. ..	93,749	35.51	71.. ..	52,100	9.27
2.. ..	97,584	67.59	37.. ..	93,554	34.59	72.. ..	49,168	8.80
3.. ..	97,467	66.67	38.. ..	93,343	33.67	73.. ..	46,160	8.34
4.. ..	97,379	65.73	39.. ..	93,112	32.75	74.. ..	43,092	7.90
5.. ..	97,315	64.77	40.. ..	92,859	31.84	75.. ..	39,984	7.47
6.. ..	97,259	63.81	41.. ..	92,580	30.93	76.. ..	36,860	7.06
7.. ..	97,206	62.84	42.. ..	92,274	30.03	77.. ..	33,745	6.67
8.. ..	97,154	61.87	43.. ..	91,938	29.14	78.. ..	30,661	6.29
9.. ..	97,105	60.91	44.. ..	91,569	28.25	79.. ..	27,629	5.92
10.. ..	97,062	59.93	45.. ..	91,165	27.38	80.. ..	24,669	5.57
11.. ..	97,022	58.96	46.. ..	90,723	26.51	81.. ..	21,803	5.24
12.. ..	96,981	57.98	47.. ..	90,238	25.65	82.. ..	19,054	4.92
13.. ..	96,936	57.01	48.. ..	89,705	24.80	83.. ..	16,448	4.63
14.. ..	96,885	56.04	49.. ..	89,118	23.96	84.. ..	14,008	4.35
15.. ..	96,825	55.07	50.. ..	88,473	23.13	85.. ..	11,758	4.08
16.. ..	96,752	54.11	51.. ..	87,762	22.31	86.. ..	9,716	3.84
17.. ..	96,660	53.16	52.. ..	86,979	21.51	87.. ..	7,897	3.61
18.. ..	96,541	52.23	53.. ..	86,119	20.72	88.. ..	6,306	3.40
19.. ..	96,384	51.31	54.. ..	85,175	19.94	89.. ..	4,943	3.20
20.. ..	96,215	50.40	55.. ..	84,142	19.18	90.. ..	3,800	3.02
21.. ..	96,049	49.49	56.. ..	83,015	18.43	91.. ..	2,862	2.85
22.. ..	95,886	48.57	57.. ..	81,790	17.70	92.. ..	2,111	2.70
23.. ..	95,728	47.65	58.. ..	80,459	16.99	93.. ..	1,524	2.55
24.. ..	95,577	46.73	59.. ..	79,017	16.29	94.. ..	1,076	2.42
25.. ..	95,432	45.80	60.. ..	77,456	15.60	95.. ..	742	2.29
26.. ..	95,292	44.86	61.. ..	75,771	14.94	96.. ..	500	2.17
27.. ..	95,154	43.93	62.. ..	73,954	14.29	97.. ..	329	2.06
28.. ..	95,014	42.99	63.. ..	72,002	13.67	98.. ..	211	1.96
29.. ..	94,871	42.06	64.. ..	69,915	13.06	99.. ..	132	1.86
30.. ..	94,726	41.12	65.. ..	67,699	12.47	100	80	..
31.. ..	94,577	40.18	66.. ..	65,361	11.90	101	47	..
32.. ..	94,425	39.25	67.. ..	62,910	11.34	102	27	..
33.. ..	94,267	38.31	68.. ..	60,353	10.80	103	15	..
34.. ..	94,103	37.38	69.. ..	57,696	10.28	104	8	..

The following table shows the l_x and e^o_x values for Australian females:

Australia: Life Tables, 1960-62
Survivors (l_x) and Complete Expectation of Life (e°_x)
Females

Age x	l_x	e°_x	Age x	l_x	e°_x	Age x	l_x	e°_x
0.. ..	100,000	74.18	35.. ..	96,183	41.70	70.. ..	72,505	12.19
1.. ..	98,243	74.49	36.. ..	96,065	40.75	71.. ..	70,378	11.54
2.. ..	98,074	73.62	37.. ..	95,936	39.81	72.. ..	68,079	10.92
3.. ..	97,974	72.70	38.. ..	95,797	38.86	73.. ..	65,600	10.31
4.. ..	97,911	71.74	39.. ..	95,646	37.92	74.. ..	62,939	9.72
5.. ..	97,854	70.78	40.. ..	95,481	36.99	75.. ..	60,096	9.16
6.. ..	97,805	69.82	41.. ..	95,302	36.06	76.. ..	57,077	8.62
7.. ..	97,762	68.85	42.. ..	95,107	35.13	77.. ..	53,888	8.10
8.. ..	97,725	67.88	43.. ..	94,893	34.21	78.. ..	50,543	7.60
9.. ..	97,693	66.90	44.. ..	94,658	33.29	79.. ..	47,058	7.13
10.. ..	97,664	65.92	45.. ..	94,400	32.38	80.. ..	43,453	6.68
11.. ..	97,637	64.94	46.. ..	94,117	31.48	81.. ..	39,756	6.25
12.. ..	97,611	63.95	47.. ..	93,809	30.58	82.. ..	36,006	5.85
13.. ..	97,584	62.97	48.. ..	93,474	29.69	83.. ..	32,247	5.47
14.. ..	97,556	61.99	49.. ..	93,109	28.80	84.. ..	28,530	5.12
15.. ..	97,525	61.01	50.. ..	92,713	27.92	85.. ..	24,909	4.79
16.. ..	97,488	60.03	51.. ..	92,283	27.05	86.. ..	21,440	4.49
17.. ..	97,443	59.06	52.. ..	91,817	26.18	87.. ..	18,174	4.20
18.. ..	97,391	58.09	53.. ..	91,314	25.32	88.. ..	15,158	3.94
19.. ..	97,335	57.12	54.. ..	90,773	24.47	89.. ..	12,427	3.70
20.. ..	97,278	56.16	55.. ..	90,191	23.63	90.. ..	10,005	3.48
21.. ..	97,220	55.19	56.. ..	89,566	22.79	91.. ..	7,905	3.27
22.. ..	97,161	54.22	57.. ..	88,895	21.96	92.. ..	6,125	3.08
23.. ..	97,101	53.26	58.. ..	88,171	21.13	93.. ..	4,650	2.91
24.. ..	97,042	52.29	59.. ..	87,388	20.32	94.. ..	3,457	2.74
25.. ..	96,984	51.32	60.. ..	86,537	19.51	95.. ..	2,515	2.59
26.. ..	96,924	50.35	61.. ..	85,608	18.72	96.. ..	1,789	2.45
27.. ..	96,861	49.38	62.. ..	84,591	17.94	97.. ..	1,243	2.32
28.. ..	96,794	48.42	63.. ..	83,479	17.17	98.. ..	843	2.19
29.. ..	96,723	47.45	64.. ..	82,265	16.42	99.. ..	557	2.08
30.. ..	96,649	46.49	65.. ..	80,944	15.68	100.. ..	359	..
31.. ..	96,570	45.53	66.. ..	79,512	14.95	101.. ..	225	..
32.. ..	96,485	44.57	67.. ..	77,962	14.24	102.. ..	137	..
33.. ..	96,392	43.61	68.. ..	76,285	13.54	103.. ..	81	..
34.. ..	96,292	42.65	69.. ..	74,470	12.86	104.. ..	46	..

These tables are extracts from those produced by the Commonwealth Actuary, the source data being supplied by the Commonwealth Statistician and comprising: (i) the number of males and females living at each age last birthday, as shown by the 1961 Census; and (ii) the number of male and female deaths at each age (last birthday) in the years 1960, 1961 and 1962.

There are no life tables prepared on the basis of Tasmanian experience and in most legal and actuarial situations, it is normal to use the Australian Life Tables.

True Death Rates

The true death rate is the reciprocal of the complete expectation of life of a person at birth. In calculating e°_x where x is 0, the sum of the L_x values was taken as the total number of years lived by the original 100,000 over a period of a century or more. To arrive at the true death rate, the life-table can also be regarded as the experience of a *single year* so that the sum of the L_x

values no longer represents years lived but simply persons 'at risk' in association with 100,000 deaths. By way of illustration, in the male life table the sum of all survivors (L_x values) is 6,791,916 males associated with 100,000 deaths:

$$\text{True Death Rate} = \frac{100,000}{6,791,916} = 14.72 \text{ per 1,000}$$

The true death rate for a given period is unaffected by the particular age distribution of that period, and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables:

Australia: Complete Expectation of Life at Birth and True Death Rates

Period	Complete Expectation of Life At Birth (Years)		True Death Rate (a)	
	Males	Females	Males	Females
1881-1890	47.20	50.84	21.19	19.67
1891-1900	51.06	54.76	19.58	18.26
1901-1910	55.20	58.84	18.12	17.00
1920-1922	59.15	63.31	16.91	15.80
1932-1934	63.48	67.14	15.75	14.89
1946-1948	66.07	70.63	15.14	14.16
1953-1955	67.14	72.75	14.89	13.75
1960-1962	67.92	74.18	14.72	13.48

(a) Number of deaths per 1,000 in stationary (or life-table) population.

While the complete expectation of life at birth has shown a marked increase in successive tables, the increase at other ages has not been so pronounced. The following table compares the complete expectation of life at selected ages for the period 1891-1900 with that for 1960-62:

Australia: Comparative Complete Expectation of Life

Age x	Expectation of Life (e°_x) at Each Age According to Experience of Period			
	Male Lives		Female Lives	
	1891-1900	1960-62	1891-1900	1960-62
0	51.06	67.92	54.76	74.18
5	55.61	64.77	58.64	70.78
10	51.43	59.93	54.46	65.92
15	46.98	55.07	49.97	61.01
20	42.81	50.40	45.72	56.16
25	38.90	45.80	41.69	51.32
30	35.11	41.12	37.86	46.49
35	31.34	36.45	34.14	41.70
40	27.65	31.84	30.49	36.99
45	23.99	27.38	26.69	32.38
50	20.45	23.13	22.93	27.92
55	17.08	19.18	19.29	23.63
60	13.99	15.60	15.86	19.51
65	11.25	12.47	12.75	15.68
70	8.90	9.77	9.89	12.19
75	6.70	7.47	7.37	9.16
80	5.00	5.57	5.49	6.68

It will be noted that e°_x for age five years in the period 1891-1900 was actually higher than for age 0 years. This peculiarity was associated with the extremely high rate of infant mortality then prevailing.

Number of Life Table Survivors

The following table shows the number of survivors (i.e. l_x values) at various ages as presented in Australian Life Tables since 1901 i.e. for the periods 1901-1910, 1946-1948, 1953-1955 and 1960-62.

Australia: Number of Survivors (l_x) at Selected Ages out of 100,000 Births

Age x	Period			
	1901-1910	1946-1948	1953-1955	1960-1962
MALES				
0	100,000	100,000	100,000	100,000
10	86,622	95,619	96,488	97,062
20	84,493	94,562	95,460	96,215
30	80,844	92,967	93,801	94,726
40	75,887	90,823	91,861	92,859
50	68,221	85,946	87,553	88,473
60	56,782	74,251	76,256	77,456
70	38,275	52,230	54,054	54,944
80	14,330	22,785	23,658	24,669
FEMALES				
0	100,000	100,000	100,000	100,000
10	88,395	96,549	97,228	97,664
20	86,459	95,953	96,774	97,278
30	82,909	94,740	96,055	96,649
40	78,001	92,758	94,715	95,481
50	71,945	89,011	91,573	92,713
60	63,247	81,257	84,665	86,537
70	46,793	65,398	69,613	72,505
80	21,356	35,401	39,633	43,453

The most significant feature is the increased number of survivors at age 10 years and this can be related directly to the dramatic fall in infant mortality rates since the turn of the century. Attention is called also to the wide disparity between male and female survivors at ages 60, 70 and 80 years.

Chapter 7

PRIMARY INDUSTRY—RURAL

LAND TENURE AND SETTLEMENT

Introduction

The area of Tasmania is 16,885,000 acres, all of which had been proclaimed as Crown property when the first settlers arrived in 1803. In the period since their landing, 39.5 per cent of the State's total area has been alienated by grant or sale; the Crown still owns 59.0 per cent and the residual 1.5 per cent is in the process of alienation (i.e. being purchased from the Crown by instalment payments).

Historical

The first concern of the settlers on the Derwent and the Tamar in 1804 was the growing of grain, for which small holdings were adequate; thus by 1820, land obtained as grants from the Crown was confined to areas within easy reach of Hobart and Launceston and less than 70,000 acres had been alienated.

In the 1820s the successful export of wool to Britain created a demand for land in very much larger holdings and annual alienation of Crown land by free grant increased rapidly as shown in the following table:

Area of Land Alienated by Grants in Van Diemen's Land, 1820 to 1843
(*000 Acres)

Year	Area Granted	Year	Area Granted	Year	Area Granted	Year	Area Granted
1820 ..	69	1826 ..	60	1832 ..	33	1838 ..	45
1821 ..		1827 ..	77	1833 ..	24	1839 ..	15
1822 ..	n.a.	1828 ..	165	1834 ..	9	1840 ..	10
1823 ..	434	1829 ..	208	1835 ..	9	1841 ..	7
1824 ..	43	1830 ..	108	1836 ..	8	1842 ..	..
1825 ..	(a) 462	1831 ..	206	1837 ..	22	1843 ..	1

(a) Includes 350,000 acres granted to Van Diemen's Land Company.

From the previous table, it can be calculated that the alienation of Crown land by grant exceeded, in total, one million acres by 1825 and two million acres by 1843 (when this early system of free grants had virtually ceased). By 1850 the total area of land alienated was 2.7m acres. The next table summarises land alienations from 1860:

Primary Industry—Rural
Land Alienation from 1860
 ('000 Acres)

Year (a)	Land		Year (a)	Land	
	Aggregate Alienated	In Process of Alienation		Aggregate Alienated	In Process of Alienation
1860		3,069	1960	6,386	190
1880		4,233	1965	6,619	204
1900		4,835	1966	6,616	208
1910	4,932	1,104	1967	6,652	246
1920	5,242	964	1968	6,651	229
1930	5,721	542	1969	6,655	236
1940	5,912	423	1970	6,664	248
1950	6,143	365	1971	6,677	246

(a) At 31 December until 1948; at 30 June from 1950.

Present Use of Crown Lands

The next table classifies the area of the State according to ownership (i.e. alienated or Crown). Crown Forestry Reservations, accounting for 33.1 per cent of the State's area, is land used or to be used exclusively for forestry purposes.

Alienation and Occupation of Crown Lands at 30 June
 (Acres)

Classification of Land	Area		
	1969	1970	1971
Alienated (Aggregate)	6,655,456	6,664,410	6,676,781
In Process of Alienation	236,451	247,576	245,563
Crown Lands—			
Leased or Licensed—			
Through Lands Department—			
Pastoral	661,542	661,227	851,157
Closer Settlement	8,093	8,013	
Soldier Settlement	29,098	28,013	
Short-term	512	512	
Through Mines Department	66,245	53,500	59,931
Total	765,490	751,265	941,088
Forestry Reservations—			
State Forests	2,708,808	2,783,217	2,704,109
Other Land Reserved for Forestry Purposes (a)	2,814,393	2,974,476	2,885,200
Total	5,523,201	5,757,693	5,589,309
Other Crown Land	3,704,402	3,464,056	3,432,259
Area of State	16,885,000	16,885,000	16,885,000

(a) Includes estimated forested component of national parks and scenic reserves.

The previous table includes the item 'Forestry Reservations'. Cutting rights, either by exclusive forestry permit or by the award of pulpwood concessions, have been granted over almost 4.5 million acres of this area. A large proportion of the logs for sawmills, paper mills, etc. is obtained from these forestry reservations. Further details of Crown land reserved for forestry appear in the Forestry section of Chapter 8, 'Primary Industry—Non Rural'.

Although the possibility of rapidly alienating more Crown land for farming purposes on any large scale may seem remote, it should be noted that much of this land is nevertheless of importance to the State economy, specifically for forestry and tourism. Crown land reserved for forestry use occupies approximately 33.1 per cent of the area of the State while reservations classed as National Parks and Scenic Reserves account for 5.9 per cent. Details of the latter type of reservation appear in the next section.

National Parks and Scenic Reserves

The National Parks and Wildlife Service (which in 1971 took over the functions of the Animals and Birds Protection Board and the Scenery Preservation Board) is responsible for the administration of the State's National Parks and Scenic Reserves which occupy a part of the residual Crown land. Details of National Parks are as follows:

National Parks at 30 June 1972

Name	Locality	Area (Acres)
Cradie Mountain-Lake St Clair	Central Highlands	(a) 308,500
South-West (incl. Lake Pedder)	South-West	473,411
Mt Field	Derwent Valley	40,058
Ben Lomond	North-East	39,615
Frenchmans Cap	West Coast	25,240
Hartz Mountains	South	21,300
Mt Barrow	North	1,134
Freycinet Peninsula	East Coast	18,633
Rocky Cape	North-West	4,000

(a) Area amended as result of new survey.

The area under reservation as National Parks is 931,892 acres and as Scenic Reserves, a further 63,786 acres; in total, 995,678 acres. The following list gives details of the various types of reserve, together with location and area (expressed to the whole number below where fractions of an acre are recorded):

Scenic Reserves at 30 June 1972

Type of Reserve and Name	Locality	Area (Acres)
Coastal Reserves—		
Stewarts Bay	Tasman Peninsula	9
Stewarts Bay, Esplanade, Pt Puer	Tasman Peninsula	58
Pt Puer-Crescent Bay	Tasman Peninsula	92
Brown Mt-Remarkable Cave	Tasman Peninsula	150
Eaglehawk Neck and Foreshore	Tasman Peninsula	90
Eaglehawk Neck-Taranna	Tasman Peninsula	61
Tasman Arch-Blowhole	Tasman Peninsula	140
Waterfall Bay	Tasman Peninsula	30
Fossil Island	Tasman Peninsula	3
Tessellated Pavement	Forestier Peninsula	9
Lookout Rock	Bicheno	5
Cookville-Penguin Island	Bruny Island	3
Fluted Cape-Cloudy Bay	Bruny Island	600
Port Davey Foreshore	South-West	1,350
Port Davey Islands	South-West	202
Schouten Island	East Coast	8,500

Scenic Reserves at 30 June 1972—continued

Type of Reserve and Name	Locality	Area (Acres)
Waterfalls—		
St Columba	Pyengana	775
Forth	Sheffield	135
Marriott	National Park	300
Lifey	Western Tiers	250
Mt Barrow	North	200
River Reserves—		
River Pieman	West Coast	8,215
River Gordon	West Coast	6,200
Roger River Pass	North-West	430
Derwent Cliffs	New Norfolk	11
Cave and Geological Reserves—		
Hastings	South	131
Marakooa	Mole Creek	175
King Solomon	Mole Creek	500
Baldock (3 Areas)	Mole Creek	37 63 5
Gunns Plains	Ulverstone	24
Henty Glacial Moraine	West Coast	2
Scenic Roads—		
Lyell Highway	Western Highlands	18,000
Zeehan-Renison Bell	West Coast	272
St Marys Pass	St Marys	674
Murchison Highway	West Coast	1,516
Fern Gullies, Forests, etc.—		
East Risdon Flora Reserve	Derwent River	110
Thermal Springs	Kimberley	1
Thermal Springs	Hastings	19
Chalet	Hastings	1
Waterfall Creek	Bruny Island	60
Ferndene Gorge	Penguin	6
Notley Gorge	West Tamar	28
Hellyer Gorge	Waratah Area	1,406
Corra Linn	Launceston	1
Corinna	West Coast	8
Bird Sanctuary	Steppes	16
Fairy Glade	Western Tiers	97
Bradys Lookout	Rosevears	2
Lookout	Port Arthur	1
Mt Strzelecki	Flinders Island	9,750
St Patricks Head	St Marys	370
Denison River Huon Pine Scenic Reserve	Hamilton Range	1,000
Mt Montgomery	North-West	740
Historic Sites, Buildings and Monuments—		
Town of Port Arthur	Tasman Peninsula	217
Mt Arthur	Tasman Peninsula	10
Convict Coal Mines	Saltwater River	528
Bowen's Monument and Park	Risdon	6
George III Monument	Southport	25
Tasman Monument	Dunally	..
D'Entrecasteaux Monument	Gordon	1
York Town	West Tamar	4
D'Entrecasteaux' Watering Place	Recherche Bay	3
Sarah Island	Macquarie Harbour	15
Grummet Island	Macquarie Harbour	..
Old Gaol and Paddock	Richmond	1
Entally House	Hadspen	85
Steppes Homestead	Steppes	25
Shot Tower	Taroona	8
Waubadebar's Grave	Bicheno	..
Toll House	New Norfolk	..
Bluff Battery	Bellerive	4
Oatlands Mill	Oatlands	..
161 Davey Street	Hobart	..
Batchelor's Grave	Taroona	..

War Service Land Settlement

After both World War I and World War II, Government schemes were operated with the aim of assisting ex-servicemen to settle on the land. The following section deals only with the scheme initiated to settle on the land eligible ex-servicemen from the 1939-45 War, and the Korean and Malaysian operations.

Finance for capital expenditure under the scheme has been provided under the authority of the Commonwealth Parliament's Loan (War Service Land Settlement) Acts but the State Government is the administrative authority for actual operations, control being exercised through the War Service Land Settlement Division of the Agricultural Bank. The basic work of the Division involved land acquisition and the development of rural holdings on which eligible ex-servicemen were then settled. Work has now been completed and all holdings have been made over to settlers.

The following table summarises progress in physical terms (farms allotted, etc.) and in financial terms (loans to settlers, payments for acquisition, etc.):

War Service Land Settlement
1939-1945 War and Korea-Malaya Operations
Summary to 30 June 1971

Operations		Commonwealth Expenditure (Aggregate)	
Particulars	Total to 30 June 1971	Advances in Respect of Tasmania	Total to 30 June 1971 (\$'000)
Land Acquired (Net) (Acres)	452,742	For Acquisition of Land	5,068
Farms Allotted—		For Development and Improvement of Land	35,841
Number	491	Contribution to Excess Cost over Valuation ..	31,768
Area (Acres)	451,626	Settlers' Credit Facilities	15,738
Farms being Developed—		Concessions, Remissions, Moneys Written Off—	
Number .. .. .	..	Interest	791
Area (Acres) .. .. .	..	Principal	485
		Living Allowances for Settlers	489
		Irrigation Projects	6
		Cost of Administration of Credit Facilities ..	954
		Total	91,140

Of the farms allotted to 30 June 1971, the largest concentrations were at King Island, Flinders Island, the Lawrenny Estate and the Montagu project.

The 491 farms both allotted and occupied at 30 June 1971 comprised: dairy farms, 194; fat lamb farms, 172; fat lamb and beef farms, 75; orchards, 30; wool-sheep farms, 20.

Advances to Primary Producers

Although the principal efforts in land settlement since World War II have been made under the War Service Land Settlement Scheme, the State Government has also operated its own loan schemes to assist primary producers. The following table shows particulars of advances under various Acts:

Advances to Primary Producers by Agricultural Bank

Act	Total Advances Made During 1970-71	Total Advances to 30 June 1971	Balances Outstanding at 30 June 1971	
			Number	Amount
	\$'000	\$'000		\$'000
State Advances Act (including Rural Credits) 1935 ..	1,330	16,849	1,525	6,057
Commonwealth Re-establishment and Employment Act 1945 ..	..	834	42	30
Primary Producers' Relief Act—				
1947 .. .. .	..	595	5	3
1962 .. .. .	..	19	1	1
1968 .. .. .	..	587	105	530
Closer Settlement (Soldiers) Act	6	2,190	62	76
Closer Settlement Act	69	681	149	576
Fire Damage Relief Act 1967 .. .. .	..	2,599	694	2,277
Total	1,405	24,354	2,583	9,550

The main forms of assistance now available are: (i) Under Part III of the *State Advances Act* 1935, loans may be made to persons in rural industries for the purchase of farm properties, discharge of mortgage or for making improvements. Loans may be made for periods up to 30 years at an interest rate determined by the Treasurer. In July 1970, the rate was increased from 6.0 per cent to 7.0 per cent. The present limit on any single advance is \$50,000. (ii) Under Part IV of the Act (Short Term Rural Credits), loans may be made to persons engaged in prescribed rural industries for the purchase of stock, plant, seeds and manures and for other purposes considered necessary for carrying on their industry. There is no statutory limit to the amount which may be advanced to each applicant. Usual period of loans are: plant, 10 years; stock, five years; land development, 10 to 15 years; structural improvements, 20 years; working expenses, one to three years.

The *Fire Damage Relief Act* 1967 was part of the State Government's reaction to the disastrous bushfires of February 1967 when 650,000 acres of farm land, bush and forest were devastated in 14 southern municipalities; the fire caused severe stock and fodder losses and destroyed farm homes, barns, fences, etc. Assistance for the rebuilding of farmers' homes was provided under the general scheme applicable to all citizens but other types of farm rehabilitation were provided for in a loan scheme administered by the Agricultural Bank.

RURAL RECONSTRUCTION

Introduction

Economic growth, in general, brings increased prosperity to the community, however, it can create problems for particular sectors of the economy. One such problem, common to all economically developed countries, is the tendency for farm incomes to lag behind non-farm incomes. Increased prosperity does not result in similar increases in demand for farm products. The problem is compounded by rising prices of inputs e.g. machinery, building materials, labour, etc. relative to the prices paid for farm products. The divergence between prices paid by farmers for inputs and prices received for output is commonly referred to as the 'cost price squeeze'. A common response to cost price squeeze is to increase productivity and lower unit production costs. However, this solution tends to aggravate the problems of over-supply and may cause further lowering of prices for rural products.

The problem of low income farmers can therefore be attributed to two main factors; (i) 'cost price squeeze' factor; and (ii) failure of marginal farmers to move out of the industry. When marginal producers remain in the industry then a problem of low income farmers emerges. To solve this problem it is necessary to restructure farms and to reduce the number of operators in the industry. The immobility of farmers and farm labour and the nature of farm assets necessitates Government intervention to ensure that the adjustment process can be carried out. Farmers and farm workers often possess specialised skills necessary for farming but not useful in other forms of employment. This means that considerable retraining may be necessary if the transition from the farming occupation to work in secondary industry or elsewhere is to be achieved. Further problems such as family ties, dislike of urban living, cost of leaving the farm and low realisation prices on farm assets all impede exit from the rural industry.

The long term solution to the farming problem involves measures that will: (i) facilitate restructuring of economically viable farms; and (ii) assist farmers wishing to leave their properties and help overcome the serious obstacles which impede the move. Government assistance to readjustment within the rural sector is now under way with the introduction of three special schemes known as: (i) Rural Reconstruction; (ii) Rural Reconstruction Employment Training; and (iii) Marginal Dairy Farms Reconstruction. These measures are designed to alleviate hardships brought about by changing economic circumstances and to speed up the restructuring of farms in the rural industry.

On the 4 June 1971 an agreement was signed between the Commonwealth of Australia and the State of Tasmania, the object being the implementation of a national scheme of rural reconstruction; in essence, the Commonwealth will provide the financial assistance but the detailed administration is vested in the State. Similar Commonwealth-State agreements were entered into by the other Australian States on the same date. In October the Tasmanian Parliament passed the *Rural Reconstruction Act 1971* which established the mechanism for administering the scheme in Tasmania.

The original amount made available for national application during the period 1970-71 to 1974-75 was \$100m of which Tasmania was to receive \$3.3m. In April 1972 the Commonwealth announced that a further \$15m would be made available for use during 1973-74, Tasmania's share of the additional amount is to be \$0.8m.

The concepts underlying the scheme were originally framed with the particular circumstances of the Australian sheep and wheat industries in mind. Over recent years, these industries have been affected by drought, falling prices, quotas and rising costs; in short, producers faced falling net incomes and a drop in the value of properties with the result that many were unable to service existing commitments. However, the operation of the scheme now provides for the inclusion of all types of agricultural industry except for 'farm build-up' cases covered under the *Marginal Dairy Farms Reconstruction Act 1971*.

Basic Aims

The following shows the heads under which reconstruction will be attempted:

(i) *Debt Reconstruction*

This is to apply to the farmer who has sound prospects of successful operation but who has used all his cash resources and cannot meet his financial commitments.

The assistance can encompass a rearrangement and/or a composition of debts, the negotiation of a concessional rate of interest in substitution for existing rates, and advances of additional funds for carry-on expenses, the purchase of livestock and further property development. The rearrangement and/or composition of debts may be accomplished by the Reconstruction Authority advancing money to pay existing creditors in whole or in part; or making arrangements with creditors to refrain from taking action against a debtor for a specified time; and in some cases asking creditors to defer or write-off part of their debts.

Advances made under the scheme may be for a maximum term of 20 years and there is provision for an initial period where no principal repayment may be required; interest will be at an average of four per cent.

(ii) *Farm Build-Up*

The basic intention is to assist in the build-up of properties to a size commensurate with economic operation; the concern is with the amalgamation of adjoining holdings.

When an adjoining property is sold to a farmer, the Reconstruction Authority may make a grant to cover the value of acquired assets which are not useful to the enlarged property (e.g. the farm dwelling). Advances may also be made by the Authority for carry-on expenses, plant, livestock and property development if these demands are associated with the additional land. Advances will be restricted to a maximum term of 20 years and interest to a minimum of 6.25 per cent.

If a farmer participates in the debt reconstruction scheme, he is not thereby disqualified from the farm build-up scheme if circumstances warrant his inclusion.

(iii) *Rehabilitation*

Loans of up to \$3,000 may be made to those obliged to leave a rural industry. Those eligible comprise: (i) those selling a property to an adjoining owner who has been assisted under the farm build-up scheme; (ii) those unable to secure assistance under the debt reconstruction scheme because of poor long-term prospect of success.

(iv) *Retraining*

Certain farmers, family members and farm employees will be eligible for retraining, under a scheme to be administered by the Department of Labour and National Service.

Tasmanian Authority

In Tasmania, the administering authority is the Rural Reconstruction Board, composed as follows: chairman (the manager of the Agricultural Bank); one representative each from the Agricultural Department and the State Treasury; a public accountant with farmers as clients; and two practical farmers. The machinery of the Agricultural Bank is available to help in the administration of the scheme.

At the end of April 1972, the following progress had been made: (i) debt assistance—246 applications received; 31 applications involving \$750,000 assistance approved; and (ii) farm build-up—63 applications received; 7 applications involving \$150,000 assistance approved. Eight persons were recommended for the retraining scheme.

RURAL INDUSTRY

General

The Tasmanian rural economy is marked by great diversity and even allowing for the special regional adaptations made necessary by soil, climate, terrain and altitude, there are many rural holdings which individually exhibit an extremely varied range of activities.

The present pattern of farming puts an increasing emphasis on livestock rearing for meat production. This is borne out by the continuing increase in the area of sown and semi-improved pasture. Wool and dairy products are still very important but production of these has tended to level off because of depressed prices. Orcharding, hop growing and growing of vegetables for processing are also of considerable significance but each has also suffered from severe marketing difficulties in recent years. This has resulted in a number of small holdings being absorbed into larger and more economic farm units.

The next section deals with the early history of Tasmanian farming and emphasises the importance of wheat growing in the early colonial era.

Historical

The pattern of early agricultural development can be inferred from the following summary of official farm statistics:

Area Under Crops: Van Diemen's Land, 1818-1841
(Acres)

Year	Wheat	Barley	Oats	Peas	Beans	Pota- toes	Turnips	English Grasses	Tares	Total Crops
1818 ..	5,049	214	<i>n.a.</i>		149	268	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	(a)
1828 ..	20,357	3,864	1,573	646	35	1,292	1,296	4,970	..	34,033
1838 ..	41,760	13,495	21,576	868	128	3,532	9,054	17,150	437	108,000
1841 ..	63,734	9,010	16,471	738	102	4,185	15,943	22,082	349	132,614

(a) Not available on a comparable basis.

Livestock statistics for the same period are summarised as follows:

Livestock: Van Diemen's Land, 1818-1841

Year	Horses	Horned Cattle	Sheep	Goats
1818	267	12,356	127,883	..
1828	2,034	84,476	553,698	708
1838	9,656	75,087	1,214,485	2,400
1841	12,000	90,498	1,167,737	2,630

In 1842 the island colony was Australia's principal wheatgrower and, with nearly 80,000 acres sown to this crop, contained nearly half the Australian wheat acreage. Throughout the 19th century wheat was a principal cash crop but eventually competition from the other States (both in type and price) caused a decline, as shown in the following table:

Wheat for Grain: Area and Total Production, Selected Years

Year	Area	Production	Year	Area	Production
	acres	'000 bushels		acres	'000 bushels
1860-61	66,450	1,416	1930-31	19,107	391
1870-71	57,382	897	1940-41	8,038	140
1880-81	50,022	750	1945-46 (b) ..	4,982	67
1890-91	32,452	643	1950-51	5,318	95
1898-99 (a) ..	85,287	2,304	1960-61	6,912	148
1900-01	51,825	1,110	1968-69	17,394	410
1910-11	52,242	1,121	1969-70	14,732	353
1920-21	28,284	566	1970-71	11,067	283

(a) Peak production year.

(b) Record low production year.

The home-grown product is now used to make high quality biscuit flours (for which it is well suited) and for stock feed.

Before the 1850s, most farm land had been confined to the eastern half of the State where open plains and open forest country encouraged penetration. Further development required the clearing of more thickly timbered land, the principal attraction being the fertile chocolate coloured volcanic soils of the north-west coast; at the same time, the discovery of the basalt lands in the Scottsdale-Ringarooma area was followed by settlement in the north-east. In the 1840s pioneers began to develop orchards, mainly for apples, in the heavily timbered Huon

Valley; later in the 19th century orchards were established in the Tamar and lower Mersey Valleys. In the decade after Federation, annual apple production first exceeded one million bushels (as compared with the 1963-64 record crop of $8\frac{1}{2}$ million bushels).

In the 20th century, the State and Commonwealth Governments played major parts in encouraging rural development and settlement, comprehensive soldier settlement schemes being introduced after both World Wars. In the last decade, major private schemes have concentrated on pastoral development in the far north-east.

Rural Industry Statistics

Sources of Information

The statistics are, in the main, compiled from census returns of agricultural, pastoral and dairying production collected from rural holdings in Tasmania at 31 March each year. In conjunction with the general census, supplementary collections from farms are conducted where the harvesting of certain crops has not been completed by 31 March (e.g. apples, potatoes).

Additional information is also obtained from various marketing and other authorities and from a number of entirely separate collections covering such data as slaughterings and meat and dairy production.

Period Covered

Data relating to area sown, production and number of holdings growing crops are, in general, for the season ended 31 March. In cases where harvesting has not been completed by 31 March (e.g. potatoes), total production is nevertheless collected and included in published figures. Livestock numbers are also reported as at 31 March.

Rural Holdings

A 'rural holding' is defined as a piece of land of one acre or more in extent used for the production of agricultural products or for the raising of livestock and the production of livestock products. Care should be exercised in drawing conclusions from changes in the number of rural holdings over a series of years. There are many small sub-commercial holdings, a proportion being no more than large residential blocks with perhaps a small plot of potatoes or other crops, or carrying a house-cow or poultry. It is very difficult, in some cases, to determine whether or not they should be regarded as rural holdings within the definition and over a period of time some variation in treatment has occurred.

Area of Crops

Total area of land sown or planted to crops is shown irrespective of whether the whole area was subsequently harvested or whether a portion or the whole of the crops failed and was not harvested. Where two successive crops are grown on the same land during the one season the land is included twice in the area of crops.

Value of Production

The statistics in the following sections refer mainly to areas sown to crops and quantities produced. The value of the various crops is shown under 'Value of Production' in Chapter 8.

Classification of Rural Holdings By Type of Activity

Because many Tasmanian holdings are devoted to more than one specific type of farming activity it is difficult to present, in summary form, the essential characteristics or structure of rural industry in the State today. Before considering in detail crop areas, production statistics and livestock numbers, it is logical to examine the main 'line' of each farm and to determine the principal activities; from this study can be evolved a classification of holdings by type of activity. In 1959-60 the first attempt was made at classifying rural holdings in all States on a uniform basis. Similar classifications were produced for 1965-66 and 1968-69 and an annual series for subsequent years will be produced (although later figures are not available at time of printing).

The next table is a summary of the main farm types for the years 1959-60, 1965-66 and 1968-69, while the following section describes the 1968-69 classification in detail.

Holdings (a) Classified According to Type of Activity, Selected Years

Year	Type of Holding						
	Sheep	Cattle		Fruit	Multi-Purpose	Other	Total Classified
		Meat	Milk				
1959-60 ..	1,984	153	3,038	1,527	743	684	8,129
1965-66 ..	1,547	276	3,026	1,234	924	857	7,864
1968-69 ..	1,423	468	2,678	906	652	820	6,947

(a) Excluding 'sub-commercial' and unused holdings.

Classification of Rural Holdings, 1968-69

Because of the large number of holdings on which more than one type of activity occurs, it was necessary to determine the principal activity before such holdings could be classified to particular types. Since it was desirable to exclude from the principal classification small sub-commercial holdings (generally operated only on a part-time basis), it was also necessary to have some means of determining at what scale of operations holdings engaged in various activities could be considered as commercial propositions. The measuring of the importance of each type of activity was based on *gross receipts at the farm* (estimated from quantity details shown on the annual statistical returns together with price data from independent sources).

Holdings for which estimated farm gross receipts were less than \$2,000 in the 1968-69 classification were treated as 'sub-commercial' and these, together with unused holdings, holdings used for intermittent grazing, and holdings attached to prisons, hospitals, etc. were not classified by type of farming activity. When these holdings had been eliminated farms were classified according to the following formula:

If a single activity accounted for 50 per cent or more of the total gross receipts, that activity determined the holding type. Where no single activity accounted for 50 per cent of the total gross receipts, the holdings were classified as 'multi-purpose'. Principal exceptions to this general rule were holdings reporting: (i) sheep and cereal grains; and (ii) cattle (milk production) and pigs. In the former case, the holding was treated as a composite sheep-cereal grain type if the combined receipts obtained from the two activities added to 75 per cent or more of total gross receipts, so long as gross receipts from sheep were no more than four times and not less than one quarter of the gross receipts obtained from cereal grains. In the latter case, if the combined receipts obtained from cattle (milk production) and pigs represented 50 per cent or more of total gross receipts, the holding was classified as dairying.

The next table provides details of the number of holdings classified to each type of activity in each statistical division. (The divisional structure used is the old structure since it is not possible to compile the data on the new divisional basis.)

A number of interesting conclusions emerge from a consideration of 'classified holdings' in the following table: (i) the main activity of 66 per cent of classified holdings is concerned with either cattle or sheep; (ii) cereal grain growing barely exists as a main activity and is principally carried out in conjunction with the grazing of sheep or cattle; (iii) three main types of holding, namely dairying, sheep and fruitgrowing in that order, account for over 72 per cent of classified holdings; (iv) over nine per cent of classified holdings must carry on at least three distinct activities otherwise they could not be classified as 'multi-purpose' in accordance with the 50 per cent formula prefacing the table; and (v) dairying is clearly the major activity of the North Western Statistical Division and fruitgrowing of the Southern Statistical Division.

Holdings Classified According to Type of Activity, 1968-69

Type of Holding	Statistical Division								Total
	Hobart	South East-ern	South-ern	North West-ern	North East-ern	North Mid-land	Mid-land	Balance (a)	
Sheep-Cereal Grain ..	19	58	5	10	5	38	16	..	151
Sheep	45	253	61	172	264	300	328	..	1,423
Cereal Grain .. ..	..	2	..	1	..	1	2	..	6
Cattle—Meat	7	6	47	246	121	28	7	6	468
Milk	40	32	89	1,841	479	169	27	1	2,678
Fruitgrowing	92	7	646	38	113	..	10	..	906
Vegetables—Potatoes ..	2	5	1	174	11	2	37	..	232
Other and Mixed	31	10	4	112	26	9	3	1	196
Poultry	18	6	14	10	16	6	3	..	73
Pigs	8	7	3	13	3	2	2	1	39
Other (One Main Purpose)	25	..	43	9	8	1	33	4	123
Multi-Purpose	30	40	37	357	64	94	29	1	652
Total 'Classified' ..	317	426	950	2,983	1,110	650	497	14	6,947
Sub-Commercial	377	280	542	946	592	294	189	15	3,235
Unused	21	18	28	83	37	10	5	..	202
Total All Holdings ..	715	724	1,520	4,012	1,739	954	691	29	10,384

(a) The City of Launceston plus the Western Division mining municipalities.

Size of Rural Holdings

A classification of rural holdings by size is carried out at irregular intervals (the most recent being for the year 1969). The following table compares the size of holdings in selected years:

Classification of Rural Holdings by Size

Size of Holdings (Acres)	Number of Holdings			Area of Holdings ('000 Acres)		
	1928	1966	1969	1928	1966	1969
1 and Under 50	3,164	2,365	2,241	58	50	47
50 and Under 100	2,108	1,625	1,457	147	117	105
100 and Under 500	4,779	4,770	4,624	1,095	1,069	1,054
500 and Under 1,000	726	946	950	594	654	659
1,000 and Under 5,000	775	845	888	1,600	1,771	1,862
5,000 and Under 10,000	146	130	124	1,018	892	838
10,000 and Under 20,000	67	67	68	925	910	918
20,000 and Under 50,000	29	24	27	812	711	742
50,000 and Over	5	5	5	384	323	362
Total	11,799	10,777	10,384	6,633	6,496	6,591

Number of Holdings with Crops or Livestock

At 31 March 1971, there were 9,926 rural holdings (compared with 11,201 in 1961). The following table shows the number of holdings growing selected principal crops or carrying livestock; this gives some indication of farming activities but on a cruder basis than the earlier table since the same holding may be included more than once in the figures (in an extreme case, the one holding could be included 11 times):

Number of Holdings Growing Principal Crops or Carrying Livestock

Particulars	1960-61	1967-68	1968-69	1969-70	1970-71
Number of Rural Holdings	11,201	10,631	10,384	10,159	9,926
Holdings—					
Growing—					
Grain (a)—					
Barley	270	403	450	475	517
Oats	304	463	421	307	305
Wheat	121	159	239	203	160
Hops	103	111	108	102	81
Vegetables (b)—					
Potatoes	1,888	1,543	1,410	1,174	985
Onions	22	24	26	34	39
Fruit (b)—					
Orchard	1,461	1,184	1,108	920	1,007
Small Fruit	553	344	348	353	359
Carrying—					
Cattle	8,868	8,631	8,545	8,405	8,384
Sheep	5,764	5,294	5,098	4,815	4,611
Pigs	3,599	2,545	2,400	2,302	2,134

(a) Twenty acres and over.

(b) One acre and over.

It should be noted that a fall in the number of holdings engaged in a particular activity does not necessarily involve decreased total activity. Holdings carrying cattle have decreased over the last 10 years while cattle numbers have almost doubled in the same period. However, the decline in holdings growing small fruit has been matched by an actual fall in crop acreage and in total production.

Land Utilisation on Rural Holdings

Rural holdings at present occupy 38.5 per cent of Tasmania's total area; details of land utilisation follow:

Land Utilisation on Rural Holdings
(Acres)

Particulars	1960-61	1968-69	1969-70	1970-71
Area Used for Crops (a)	379,345	476,368	417,566	423,899
Land Lying Fallow (b)	77,229	61,170	63,857	56,554
Sown Pasture Grazed (c)	1,202,096	1,725,275	1,820,085	1,846,381
Other Land Used for Grazing	3,266,457	2,951,773	2,964,617	2,831,491
Balance of Holdings	1,585,519	1,376,815	1,250,410	1,343,159
Total Area of All Holdings	6,510,646	6,591,402	6,516,537	6,501,486

(a) Includes area of sown pasture *cut* for hay, seed, silage or green feed; includes also orchards and small fruits.

(b) Excludes short period or summer fallow.

(c) Excludes area *cut* for hay, seed, silage or green feed.

Definition of 'Crops'

As defined in the previous table, crops are produced not only from cultivated fields and orcharding land but also from sown pasture if its growth is *cut* for hay, seed, silage or green feed. The following table shows the total area of crops on this basis with double-cropping also being taken into account.

*Primary Industry—Rural***Total Area of Crops
(Acres)**

Area	1960-61	1968-69	1969-70	1970-71
Used for Crops	377,739	476,368	417,566	423,899
Double-Cropped	1,606	12,701	9,791	8,390
Total Area of Crops	379,345	489,069	427,357	432,289

Definition of 'Sown Pasture'

Sown pasture is defined in these statistics as 'clovers and grasses (other than native)'. The next table shows the total area of sown pasture and distinguishes between areas *cut* for various purposes and areas simply grazed:

**Sown Pasture: Classification of Total Area
(Acres)**

Particulars	1960-61	1968-69	1969-70	1970-71
Clover for Seed	782	436	1,320	2,378
Grass for Seed	4,352	4,060	3,162	2,680
Clover and Grasses Cut For—				
Hay	154,626	191,439	157,048	194,631
Silage and Green Feed	22,280	12,733	14,180	14,627
Total 'Under Crop'	182,040	208,668	175,710	214,316
Clover and Grasses Grazed (Not Cut)	1,203,702	1,725,275	1,820,085	1,846,381
Total Sown Pasture	1,385,742	1,933,943	1,995,793	2,060,697

Trend in Land Utilisation

The total area of rural holdings is still approximately the same as it was at the end of World War I. The most striking change is the rapid development of sown pasture, the previous table showing a 49 per cent increase in the decade ending 1970-71. In 1944-45 the area of sown pasture was under 5,000,000 acres; it passed 1,000,000 acres in 1955-56 and exceeded 2,000,000 acres in 1970-71. A substantial increase has also occurred in the area of sown pasture *cut* for hay, seed, silage or green feed and since this is, for the purpose of these statistics, a component of the area used for crops, corresponding variations in total crop areas are due to this factor.

Grain crops are no longer the dominant item and many primary producers, through their development of sown pasture, have become grassland farmers with the mower and pick-up baler as their main 'harvesting' machines (as opposed to the reaper and binder on ploughed fields). The trend to grassland farming has meant greatly increased capacity to carry stock, the numbers of sheep having doubled and cattle trebled since World War II. (In the decade ending 1970-71, sheep increased by 32 per cent from 3.4 million to 4.5 million, cattle by 86 per cent from 394,000 to 733,000.)

Temporary and Permanent Pasture

It should be noted that some of the areas included as sown pasture are 'temporary' in the sense that they may be put under crop after some years of use for grazing. In the same sense, specific areas used for crops in any year are also 'temporary' since they may later be converted

to sown pasture. This rotational pattern, characteristic of much of Tasmania's mixed farming, obviously is designed to maintain soil fertility at a high level and to guard against the soil exhaustion associated with the earlier era of intense cultivation of cash crops. 'Ley' farming is the technical term for this rotational method.

Farm statistics for 1970-71 show the area of sown pasture as 2,060,697 acres and indicate that the trend of the previous decade is being maintained.

The Tasmanian Department of Agriculture in 1970 released a new perennial rye-grass (Tasdale) superior to the widely-sown New Zealand perennial rye-grass. The main seed varieties produced on Tasmanian farms during the past five years are listed in the following table:

Grass Seed Production (a)
(Cwt)

Type of Grass	1966-67	1967-68	1968-69	1969-70	1970-71
Clover—White	382	394	214	512	1,040
Red	237	5	11	352	616
Subterranean	2	4	237	2	..
Other	10	..	13	19	49
Ryegrass—Perennial	8,324	3,971	9,227	6,296	6,010
H.I.	1,590	298	2,918	899	1,062
Italian	1,068	457	902	439	662
Cocksfoot	49	29	40	54	454
Other	41	215	1,042	307	722
Total	11,702	5,373	14,604	8,880	10,615

(a) Includes all pasture seed harvested, whether as a separate crop or from an area sown to grain crops.

Agriculture

Sufficient has been said on land utilisation to emphasise the trend to grass-land farming. In the summary table below, showing the area devoted to the principal crop types, the area of sown pasture *cut* for hay, seed, silage or green feed is attributed to the appropriate crop, e.g. as a component of hay and green feed.

Area of Principal Crops: Summary
(Acres)

Crop	1960-61	1968-69	1969-70	1970-71
Cereals for Grain	46,714	75,074	66,676	66,308
Hay	171,012	210,563	171,802	211,659
Green Feed	81,843	111,555	103,181	81,213
Field Peas (Blue, Grey and Other)	8,039	5,606	5,706	6,169
Other Stock Feed Crops	18,182	26,732	20,991	15,956
Grass Seed	5,139	4,496	4,530	5,091
Industrial Crops (a)	1,771	1,913	1,675	2,720
Vegetables for Human Consumption	23,340	29,781	28,298	21,052
Orchard Fruit	19,943	19,989	19,678	19,328
Small Fruit	2,251	1,442	1,466	1,529
All Other Crops	1,111	1,921	3,355	1,268
Total Area of Crops	379,345	489,069	427,357	432,289

(a) Includes hops and mustard, and from 1970-71 oil poppies. Prior to 1970-71 oil poppies were included with 'other crops'.

Details of individual crops, their area, production and yield per acre, are shown in the next table:

Crops: Area, Production and Yield Per Acre

Crop and Unit of Quantity	Average, Ten Years Ended 1969-70			Year 1970-71		
	Area (Acres)	Production		Area (Acres)	Production	
		Total	Yield Per Acre		Total	Yield Per Acre
CEREALS FOR GRAIN (BUSHELS)						
Barley	20,400	684,493	33.55	31,838	1,312,310	41.22
Oats	29,301	684,630	23.37	23,336	486,129	20.83
Rye	237	3,363	14.18	68	827	12.16
Wheat	14,319	359,187	25.09	11,067	282,590	25.53
HAY (TONS)						
Grass and Clover ..	155,497	304,967	1.96	194,631	403,637	2.07
Oaten	15,081	28,740	1.91	9,598	19,391	2.02
Other	3,003	5,985	1.99	7,431	17,665	2.38
GRASS SEED (CWT)						
Clover	1,009	700	0.69	2,378	1,705	0.72
Other (a)	3,657	8,945	2.07	2,713	8,908	2.49
FIELD PEAS (BUSHELS)						
Blue	4,334	97,764	22.56	4,998	169,302	33.87
Grey and Other ..	3,151	58,880	18.69	1,171	33,483	28.59
OTHER STOCK FEED CROPS						
Horse Beans .. bushels	385	7,936	20.60	551	14,657	26.60
Turnips, Swede and White tons	26,572	n.a.	n.a.	15,381	n.a.	n.a.
Other	188	..	..	24	..	..
INDUSTRIAL CROPS (LB)						
Hops (b)	1,458	2,664,000	1,826	1,117	2,375,000	2,126
Mustard	311	128,000	410	8	4,000	500
Oil Poppies	n.p.	n.p.	n.p.	1,402	n.p.	n.p.

Crops: Area, Production and Yield Per Acre—continued

Crop and Unit of Quantity	Average, Ten Years Ended 1969-70			Year 1970-71		
	Area (Acres)	Production		Area (Acres)	Production	
		Total	Yield Per Acre		Total	Yield Per Acre

VEGETABLES FOR HUMAN CONSUMPTION

Beans, French and Runner .. '000 lb	800	6,328	7.91	1,405	11,671	8.31
Peas, Green (c)—						
For Processing .. '000 lb	13,700	45,092	3.27	7,445	32,794	4.38
Sold in Pod .. '000 lb	134	146		57	53	
Potatoes tons	11,010	68,444	6.22	8,994	71,444	7.94
Turnips, Swede and White tons	662	4,328	6.54	653	4,673	7.16
Other	1,528	..	..	2,499	..	..

ORCHARD FRUIT (BUSHELS)

Bearing—						
Apples	15,227	7,159,800	470	14,122	7,373,000	522
Apricots	397	32,879	83	267	26,129	98
Pears	1,375	506,900	369	1,107	396,651	358
Plums and Prunes ..	62	12,732	205	31	4,767	154
Other	81	..	..	56	..	..
Non-bearing	2,978	..	..	3,742	..	..

SMALL FRUIT (LB)

Bearing—						
Currants (Black and Red)	779	2,614,300	3,355	587	2,237,000	3,811
Gooseberries	31	239,500	7,751	22	121,000	5,500
Loganberries	140	835,600	5,956	94	506,000	5,383
Raspberries	658	3,347,500	5,087	561	2,955,000	5,267
Strawberries	71	245,900	3,478	46	129,000	2,804
Non-bearing	162	..	..	203	..	..

(a) Production includes seed harvested from areas sown to grain crops; this seed is excluded from the average yield figures.

(b) Non-bearing area excluded; production expressed in dry weight.

(c) Ex-shell weight.

Summary of Principal Crops

The following tables, which summarise the area of selected principal crops and give details of production for recent years, illustrate: (i) the increasing importance of barley for grain, and french and runner beans for processing; and (ii) the declining importance of potatoes, small fruit and hops. High stock levels of processed peas in Australia and New Zealand forced processing firms to make drastic cuts in their contracts to farmers for the supply of processing peas during the 1970-71 season.

Selected Principal Crops: Area and Production

Particulars	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
AREA (ACRES)						
Barley for Grain	15,330	21,057	24,051	26,214	29,692	31,838
Oats for Grain	23,350	35,909	35,371	31,434	22,167	23,336
Wheat for Grain	6,912	12,747	12,018	17,394	14,732	11,067
Hay	171,012	203,181	178,838	210,563	171,802	211,659
Field Peas	8,039	5,982	5,562	5,606	5,706	6,169
Grass Seed	5,139	5,136	2,385	4,496	4,530	5,091
Hops, Bearing	1,406	1,468	1,502	1,521	1,395	1,117
Beans, French and Runner	244	970	1,041	1,666	1,577	1,405
Peas, Green—						
For Processing	10,003	15,221	14,877	14,014	14,590	7,445
Sold in Pod	162	83	67	96	117	57
Potatoes	10,875	10,278	10,960	11,461	9,367	8,994
Orchards, Bearing—						
Apples	15,825	15,235	14,945	14,487	14,343	14,122
Pears	1,451	1,398	1,220	1,175	1,219	1,107
Currants (Black and Red)	916	695	548	590	577	587
Loganberries	210	139	94	125	102	94
Raspberries	853	577	452	484	517	561
Strawberries	55	67	66	67	65	46
PRODUCTION						
Barley for Grain ..bushels	344,137	771,750	884,222	884,067	1,095,427	1,312,310
Oats for Grain ..bushels	391,285	947,960	1,013,665	582,910	454,937	486,129
Wheat for Grain ..bushels	148,128	385,243	316,288	410,263	352,651	282,590
Hay tons	325,974	436,907	309,099	494,227	361,537	440,693
Field Peas ..bushels	92,032	151,828	119,345	128,841	174,987	202,785
Grass Seed .. cwt	7,972	11,702	5,373	14,604	8,880	10,615
Hops (a) .. '000 lb	2,819	2,091	3,005	3,488	2,796	2,375
Beans, French and Runner						
'000 lb	1,372	8,127	8,792	13,769	11,232	11,671
Peas, Green (b)—						
For Processing ..'000 lb	14,281	56,689	53,926	54,266	66,042	32,794
Sold in Pod ..'000 lb	152	101	79	135	213	53
Potatoes tons	39,050	73,300	79,058	72,120	67,850	71,444
Apples .. '000 bushels	5,594	6,301	7,943	7,138	7,400	7,373
Pears .. '000 bushels	461	404	511	451	496	397
Currants (Black and Red)						
'000 lb	3,097	2,715	2,160	2,638	2,063	2,237
Loganberries ..'000 lb	1,196	681	511	628	446	506
Raspberries ..'000 lb	3,291	3,240	2,502	2,629	2,812	2,955
Strawberries ..'000 lb	172	262	241	203	226	129

(a) Dry weight.

(b) Ex-shell weight.

Principal Crops

The data on acreage and production of crops are compiled, in general, to give totals for each municipality. In subsequent parts of this Chapter dealing with geographical distribution, the information is presented only in statistical divisions; however, the Hobart and Southern Division totals have been combined since the Hobart Division is basically a concept related to urban population. A description of the Tasmanian statistical divisions and sub-divisions appears in Chapter 2.

Cereals for Grain

The next table shows the geographical distribution of cereal grain growing:

Cereals for Grain: Area of Crops in Statistical Divisions, 1970-71
(Acres)

Cereals for Grain	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Barley	10,121	12,809	3,064	15,873	5,848	..	5,848	31,838
Oats	6,726	9,845	6,126	15,971	641	..	641	23,336
Rye	63	..	..	..	5	..	5	68
Wheat	4,629	3,393	2,405	5,798	641	..	641	11,067
Total	21,538	26,046	11,595	37,640	7,135	..	7,135	66,309

The area under barley as a grain crop has tended to increase in recent years, the 1960-61 acreage being only 15,330. Larger than usual wheat acreages were recorded in 1963-64 (17,562) and 1968-69 (17,394) but the 1970-71 area was the lowest for 10 years.

Hay and Green Feed

The following table shows the geographical distribution of hay and green feed crops:

Hay and Green Feed: Area of Crops in Statistical Divisions, 1970-71
(Acres)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Hay—								
Grass and								
Clover ..	26,431	60,281	27,152	87,432	80,702	65	80,767	194,631
Oaten ..	1,843	3,773	1,232	5,004	2,750	..	2,750	9,598
Other ..	2,586	1,625	1,934	3,558	1,287	..	1,287	7,431
Total ..	30,861	65,678	30,317	95,995	84,739	65	84,804	211,659
Green Feed ..	18,751	20,064	24,459	44,523	17,807	132	17,939	81,213

It should be noted that the grass and clover hay area in the table (194,631 acres) relates to hay produced by mowing sown pasture. The North Western Sub-division with the largest area devoted to sown pastures produces approximately 40 per cent of the State's hay.

The North-Western Sub-division's predominance in acreage under hay and green feed crops can be related to the fact that it carries about 40 per cent of the State's cattle and is the principal dairying area.

The chief sources of green feed are areas sown to oats (usually more than half of total green feed acreage), areas of grasses and clovers cut from sown pasture (18.0 per cent in 1970-71) and rape (19.8 per cent in 1970-71); other green feed crops are obtained from chou moellier, barley, lucerne, millet, ryecorn and wheat.

Vegetables for Human Consumption

As previous acreage and production tables indicated, there has been a decline in potato growing; the next table traces the history of this crop since 1860:

Potatoes: Area Under Crop and Total Production, Selected Years

Year	Area	Production		Year	Area	Production	
		Total	Yield Per Acre			Total	Yield Per Acre
	acres	tons	tons		acres	tons	tons
1860-61 ..	7,621	33,589	4.41	1930-31 ..	37,229	95,289	2.56
1870-71 ..	9,823	36,028	3.41	1940-41 ..	37,364	114,041	3.05
1880-81 ..	10,421	32,548	3.12	1944-45 (a) ..	81,092	345,232	4.26
1890-91 ..	20,133	73,158	3.63	1950-51 ..	31,581	124,000	3.93
1900-01 ..	23,068	93,862	4.07	1960-61 ..	10,875	39,050	3.59
1910-11 ..	26,230	70,090	2.67	1969-70 ..	9,367	66,921	7.14
1920-21 ..	32,000	88,679	2.77	1970-71 ..	8,994	71,444	7.94

(a) Peak acreage and production year.

Potato growing was for many years a major activity in the North Western Sub-division and even in 1970-71, 83 per cent of the acreage and 88 per cent of the production of the State's potato crop was located in that area. The size of the Tasmanian potato crop has always been influenced by the demand from other States, in particular, New South Wales. In 1951-52, over 100,000 tons were exported; annual exports from 1964-65 to 1967-68 ranged between 26,000 and 35,000 tons but in 1970-71 they were only slightly over 9,000 tons. The considerably increased yield per acre in recent years has been due mainly to the greater use of irrigation and artificial fertilisers. In 1970-71 52 per cent of the State potato crop was irrigated compared with only eight per cent 10 years earlier. (See 'Technical Aspects of Rural Industry' later in this Chapter.)

The decline in the export crop has been largely offset by increased opportunities for disposing of potatoes and other vegetable crops to dehydrating, canning and deep freezing plants developed on the north-west coast and in the Scottsdale area since World War II. The main crop grown for processing in 1969-70 was green peas, its area in that year exceeding the area planted to potatoes (14,590 acres against 9,367 acres). In 1970-71, however, due to a build-up in stocks of processed peas throughout Australia, the area planted was reduced to 7,445 acres (about half the 1969-70 area). A demand by processing establishments also exists for other vegetables. In 1970-71 1,405 acres of french and runner beans were grown compared with only 244 acres 10 years earlier. The production from all but 24 acres of the 1970-71 bean crop was for processing factories; planned industrial development during the next few years should result in an increased demand for potatoes for processing.

The concentration of vegetable growing in certain areas of the State is illustrated in the following table:

Vegetables for Sale for Human Consumption (a)
Area Under Selected Crops in Statistical Divisions, 1970-71
(Acres)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Beans, French and Runner ..	6	1	13	14	1,384	..	1,384	1,405
Peas, Green ..	42	1,704	636	2,340	5,121	..	5,121	7,502
Potatoes ..	855	195	544	738	7,397	7	7,403	8,994
All Other Vegetables ..	654	406	475	882	1,610	2	1,612	3,151
Total ..	1,558	2,306	1,668	3,975	15,512	9	15,521	21,052

(a) Includes vegetables for processing.

Grass Seed

The geographical distribution (in acres) of areas yielding grass seed in 1970-71 was as follows: Northern, 3,781; Mersey-Lyell, 664; Southern, 609; Hobart, 37; total, 5,091. The area of grass seed fluctuates widely depending on farming conditions; in 1964-65, 9,013 acres yielded seed while in 1967-68 only 2,385 acres were harvested.

Field Peas and Other Stock Feed

The geographical distribution of these crops follows:

Field Peas and Other Stock Feed (a)
Area of Crops in Statistical Divisions, 1970-71
(Acres)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Field Peas—								
Blue ..	..	4,461	55	4,516	482	..	482	4,998
Grey and								
Other ..	126	586	14	600	446	..	446	1,171
Other Stock								
Feed—								
Turnips ..	3,614	4,060	4,256	8,316	3,444	10	3,454	15,381
Other (b)	4	403	15	418	154	..	154	575

(a) Other stock feed crops not shown in previous tables.

(b) Includes Horse Beans, 551 acres.

Hops

The principal Tasmanian industrial crop is hops, grown mainly in the Derwent Valley in the municipalities of New Norfolk and Hamilton. In 1970-71 the State's hop-bearing area was 1,117 acres.

Hop production reached a record level of 3,488,000 lb in 1968-69 and, for the first time, some growers experienced difficulties in disposing of their crop. As a result of these difficulties, some farmers in 1970 and 1971 reduced hop acreages, a number 'grubbed out' their entire area of hops, while many others failed to completely harvest their crops. This resulted in a fall in production to 2,375,000 lb for the 1971 season. In recent years, new hop varieties have been progressively introduced and their higher average yield and greater alpha-acid content have meant that production has exceeded demand. The most popular variety of hops was 'Pride of Ringwood' which accounted for 55 per cent of all hops planted in 1971 compared with 28 per cent in the previous year.

Tasmania has for many years been the principal Australian grower of hops, producing about 70 per cent of the crop. However, increased production in Victoria in recent years has further aggravated marketing problems for Tasmanian growers and in 1970 Tasmania's contribution had fallen to 62 per cent.

The next table shows details of area, production and value over a five-year period:

Hops: Area, Production and Value

Season	Number of Growers	Total Area	Production		
			Total (a)	Yield Per Bearing Acre (a)	Value
		acres	'000 lb	lb	\$'000
1966-67	106	1,556	2,091	1,425	1,568
1967-68	111	1,606	3,005	2,001	2,303
1968-69	108	1,595	3,488	2,293	2,673
1969-70	102	1,472	2,796	2,004	2,143
1970-71	81	1,310	2,375	2,126	1,820

(a) Dry weight.

Oil Poppies

Oil poppies, a relatively new cash crop, are grown on the mid north-west coast and processed at Latrobe. Oil, extracted from the poppies, is used for manufacturing pharmaceutical drugs. In 1970-71, 1,402 acres of oil poppies were grown.

Orchard Fruit and Small Fruit

The geographical distribution of orchards and small fruit areas is shown below:

Area of Orchard Fruit and Small Fruit (Bearing and Non-Bearing) in Statistical Divisions, 1970-71 (Acres)

Kind	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Orchard Fruit	14,927	3,399	56	3,456	945	..	945	19,328
Small Fruit ..	1,502	13	..	13	13	..	13	1,529

Orcharding is heavily concentrated in and around the Huon Valley (Southern Statistical Division); the other main area is in the Tamar Valley (Northern Division). Small fruit growing is almost entirely confined to the Derwent and Huon Valleys.

Production of small fruits in the State has dropped by about two-thirds over the last 20 years. In spite of this, Tasmania's proportion of the 1970-71 Australian total production of small fruit was 39 per cent; for raspberries and black and red currants it was 92 per cent.

Principal Small Fruits: Area and Production

Year	Currants (Black & Red)		Loganberries		Raspberries		Strawberries	
	Bearing Area	Pro-duction	Bearing Area	Pro-duction	Bearing Area	Pro-duction	Bearing Area	Pro-duction
	acres	'000 lb	acres	'000 lb	acres	'000 lb	acres	'000 lb
1948-49 (a) ..	2,006	6,030	213	837	2,086	7,603	250	871
1966-67 ..	695	2,715	139	681	577	3,240	67	262
1967-68 (b) ..	548	2,160	94	511	452	2,502	66	241
1968-69 ..	590	2,638	125	628	484	2,629	67	203
1969-70 ..	577	2,063	102	446	517	2,812	65	226
1970-71 ..	587	2,237	94	506	561	2,955	46	129

(a) Representative year from period when small fruit areas were at record level.

(b) Part of 1967-68 decline due to bushfires in Southern Tasmania.

On the average over recent years, the value of the apple crop alone has represented one-third of the gross value of the State's total agricultural production. The next table gives recent details of area, production and average yield:

Apples: Area and Production

Season	Area		Number of Trees		Production		
	Bearing	Non-Bearing	Bearing	Non-Bearing	Total	Yield	
						Per Acre	Per Tree
	acres	acres	'000	'000	'000 bush	bush	bush
1966-67 ..	15,235	3,305	2,257	490	6,301	414	2.79
1967-68 ..	14,945	3,433	2,228	512	7,943	531	3.56
1968-69 ..	14,487	3,672	2,191	555	7,138	493	3.26
1969-70 ..	14,343	3,503	2,150	525	7,400	516	3.44
1970-71 ..	14,122	3,522	2,124	530	7,373	522	3.47

After World War I, apple acreage was 26,000 acres but the decline in area since then has been more than offset by greatly increased average yield per acre. Although the area planted with apples in New South Wales and Victoria is greater than in Tasmania the much higher average yields in Tasmania (522 bushels per acre in 1970-71) have caused production of apples to exceed that of any other State. The higher yields which are more than twice those in some States can be attributed to several factors including a much greater density of trees per acre and the greater use of irrigation.

In the 1967-68 season, devaluation of sterling threatened to reduce the return to overseas exporters and the Commonwealth Government outlined a scheme in May 1968, the main provision being 50 cents devaluation compensation for each bushel of apples exported and 53 cents for each bushel of pears exported. The compensation was continued for the 1968-69 season, but at the reduced rate of 40 cents per bushel for apples and 50 cents for pears. In 1969-70 compensation was paid at the same rate as in the 1967-68 season.

Commencing with the 1970-71 export season the Commonwealth Government's *Apple and Pear Stabilization Act* came into effect. The Act's provisions are designed to reduce the financial risks involved in the overseas export of fruit. Principal provisions of the Act are explained in a later section of this Chapter (Economic Aspects of the Tasmanian Apple Industry).

A wide variety of apples is produced in Tasmania but many only in small quantities. Of the total production of 7,373,000 bushels in 1970-71, four varieties accounted for 67 per cent (Democrat, 19 per cent; Granny Smith, 16 per cent; Jonathan, 17 per cent and Sturmer Pippin, 15 per cent).

Concurrent with the increasing economic problems facing the apple industry there has been a marked reduction in the total number of apple trees planted. In 1966 the total number of trees planted was 107,650 comprising: (i) replacement plantings in existing orchards for trees removed, 37,548; and (ii) trees planted in new orchard areas, 70,102. For 1971 apple tree plantings numbered only 71,163 trees. Replacement plantings in existing orchards increased slightly to 42,963 trees, however, plantings in new orchard areas numbered only 28,200 trees. During the same period there has been a trend away from new plantings of the more traditional varieties acceptable to the European market towards the sweeter varieties which are sought by the Asian market and return more economic prices to the grower. Two such apple types are Delicious and Red Delicious (Red Delicious, in particular, command premium prices in the Asian market). During 1971 Delicious and Red Delicious together accounted for 47 per cent of all replacement trees planted in existing orchards and for 55 per cent of all trees planted in new orchard areas. The following table shows trees planted during 1970 and 1971 in: (i) new orchard areas; and (ii) existing orchard areas as replacements for trees removed:

Apple and Pear Trees Planted According to Variety

Variety	Number of Trees Planted					
	1970			1971		
	In Existing Orchards (a)	In New Orchards	Total	In Existing Orchards (a)	In New Orchards	Total
Apples—						
Jonathan	644	50	694	1,918	265	2,183
Sturmer Pippin	166	..	166	1,053	429	1,482
Democrat	4,125	2,776	6,901	1,851	928	2,779
Granny Smith	12,804	5,051	17,855	9,307	5,309	14,616
Cleopatra	30	93	123	307	..	307
Delicious—Golden	4,643	6,562	11,205	3,943	3,700	7,643
Other	16,519	16,770	33,289	20,243	15,614	35,857
Other	3,689	4,460	8,149	4,341	1,955	6,296
Total	42,620	35,762	78,382	42,963	28,200	71,163
Pears—						
Packhams Triumph	1,402	1,540	2,942	824	633	1,457
Winter Cole .. ..	..	..	..	146	..	146
Beurre Bosc	65	..	65	25	640	665
Other	80	100	180	55	..	55
Total	1,547	1,640	3,187	1,050	1,273	2,323

(a) Trees planted as replacements for trees removed.

Of total new apple tree plantings during the three years ended 1971 three varieties accounted for 82 per cent of plantings. These varieties were: Delicious, 50 per cent; Granny Smith, 21 per cent; and Golden Delicious, 11 per cent.

Figures for the last three years indicate a trend towards higher density of apple trees per acre: 252 trees per acre in 1969, 263 in 1970 and 269 in 1971.

'All Other Crops'

In the table 'Area of Principal Crops' the item 'All Other Crops' (1,268 acres in 1970-71) includes lavender, flower seeds, cut flowers, a variety of crops grown for seed, and green manure crops (e.g. lupins).

LIVESTOCK

Introduction

This subject is dealt with in two parts: (i) Numbers of Livestock on Rural Holdings; and (ii) Livestock Products.

The first part needs no comment but the second part (Livestock Products) requires explanation. In relation to the various types of livestock, the following products are included:

Cattle—meat, milk, butter, cheese. *Sheep*—meat, wool.

Pigs—meat. *Poultry*—meat, eggs.

Butter, meat and cheese, although regarded as manufacturing industry products, are included in the section 'Livestock Products' which follows later in the Chapter because the pattern and scale of livestock farming is closely linked to the processing of these products.

Number of Livestock on Rural Holdings

The following summary table shows the numbers of livestock on rural holdings since 1860:

Livestock on Rural Holdings: Selected Years

Year	Horses	Cattle	Sheep	Pigs
	no.	no.	'000	no.
1860 (a)	21,034	83,366	1,701	31,290
1870 ..	22,679	101,459	1,350	49,432
1880 ..	25,267	127,187	1,794	48,029
1890 ..	31,165	162,440	1,619	81,716
1900 ..	31,607	165,516	1,684	68,291
1910 ..	41,388	201,854	1,788	63,715
1919-20 ..	39,452	214,442	1,781	35,530
1929-30 (b) ..	34,336	214,643	2,091	52,899
1939-40 (b) ..	29,605	252,484	2,677	44,941
1949-50 (c) ..	21,197	274,740	2,170	35,841
1959-60 ..	10,512	375,342	3,494	67,118
1969-70 ..	6,478	646,439	4,560	111,275
1970-71 ..	n.a.	733,410	4,517	112,636
Tasmanian Numbers as Proportion of Australian Total (1970-71) ..	% n.a.	% 3.0	% 2.5	% 4.4

(a) At varying dates to 1919-20.

(b) At 31 December.

(c) At 31 March from 1949-50.

Cattle

Classification

The traditional way of classifying cattle has been to call them either 'dairy' or 'beef' cattle but this has possibly been confusing since the terms may refer either to *purpose* or *breed*. In the period 1942-43 to 1962-63, the annual farm census required this dissection but the terms were not defined. In 1963-64, the cattle questions were amended as follows: (i) bulls were to be classified by *breed*; (ii) 'house cows' were to be specified separately; and (iii) all other cattle were to be classified according to *purpose* i.e. milk production or meat production. The results of the 1970-71 farm census are given, the following table showing the way in which the questions were asked and providing an analysis in which it is possible to isolate the number of cows and heifers directly associated with dairying (i.e. the fifth, sixth and seventh items on the collection form).

Description of Cattle on Rural Holdings, 31 March 1971
(Form Used For Collection)

Cattle and Calves	Bulls used or intended For Service	Dairy Breed Bulls (1 year and over) Beef Breed Bulls (1 year and over) Bull Calves (under 1 year) intended for service Dairy Breed Bull Calves Beef Breed Bull Calves	2,812 9,376 1,466 3,841
	Cows and Heifers used or intended for production (for sale) of Milk and Cream	Cows—In Milk and Dry at 31 March .. Heifers (1 year and over) Heifer Calves (under one year)	153,402 39,205 37,184
	House Cows (in milk and dry) and Heifers (one year and over) being kept primarily for own milk supply		4,171
	Cattle and Calves (not included above) mainly for Meat Production	Cows and Heifers (1 year and over) .. Calves (under 1 year) including Vealers, Bobby Calves, etc. Other (1 year and over) i.e. Steers, Bullocks etc.	223,960 187,009 70,984
	Total Cattle and Calves for all Purposes		733,410

Number at
31 March
1971

The total of 'Cows and Heifers used or intended for production (for sale) of Milk and Cream' in the previous table (229,791) can be associated directly with the dairying industry. Similarly the total of 'Cattle and Calves, mainly for Meat production' (481,953) can be associated directly with the beef cattle industry. The previous change in classification makes it impossible to compare, in full detail, the description of cattle in 1964-65 and subsequent years with descriptions reported in previous years but the following table is compiled to show broad groups regarded as generally comparable:

Description of Cattle on Rural Holdings at 31 March

Year	Number of Holdings with Cattle	Bulls (1 Year and Over)	Cows and Heifers (1 Year and Over)	Calves (Under 1 Year)	Other	Total
1950	9,759	6,186	158,424	60,601	49,529	274,740
1955	9,668	7,002	194,016	78,252	40,147	319,417
1960	9,031	7,237	229,162	100,849	38,094	375,342
1965	8,384	(a)8,311	283,955	119,455	39,750	451,471
1968	8,631	9,660	331,451	162,460	60,155	563,726
1969	8,545	10,049	351,685	166,604	57,380	585,718
1970	8,405	10,812	378,836	200,588	56,203	646,439
1971	8,384	12,188	420,738	229,500	70,984	733,410

(a) The specification of 'Bull Calves (under 1 year)' from 1963-64 may have affected the comparability of the series.

The distribution of holdings with cattle is shown below:

Distribution of Cattle in Statistical Divisions, 31 March 1971

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Holdings with Cattle ..	2,463	1,920	828	2,748	3,158	15	3,173	8,384
Total Cattle (All Descriptions)	134,167	170,623	140,404	311,027	286,932	1,284	288,216	733,410
Cows in Milk and Dry (a)	10,428	33,588	19,460	53,048	89,913	13	89,926	153,402
Heifers (1 Year and Over) (a)	3,733	8,887	4,545	13,432	22,032	8	22,040	39,205
Heifer Calves (Under 1 Year) (a)	2,753	8,280	4,347	12,627	21,801	3	21,804	37,184
Total (a) ..	16,914	50,755	28,352	79,107	133,746	24	133,770	229,791
Bulls (1 Year & Over)—								
Dairy Breeds	259	622	316	938	1,614	1	1,615	2,812
Beef Breeds	2,297	2,345	2,010	4,355	2,706	18	2,724	9,376

(a) 'Cows and Heifers used or intended for production (for sale) of Milk and Cream'. The total (229,791) can be associated directly with the dairying industry.

Breeds of Cattle

The main breeds of cattle in Tasmania for milk production are Jersey, Friesian and Ayrshire with small numbers of milking Shorthorn and Guernsey, while breeds used for the production of beef are Hereford, Aberdeen Angus, Shorthorn and Devon. In recent years, new cattle lines such as the Brahman, Murray Greys and Charolais have been introduced by farmers wishing to utilise the advantages of cross-breeding.

A recent development, associated with the trend in the beef industry towards the production of lean carcasses, is the production of meat from dairy breed calves. Dairy farmers retain male calves and, in some cases, heifer calves for sale as vealers (calves aged from nine to twelve months). The dairy breed best suited to this form of meat production is the Friesian with its high birth-weight (85 to 95 lb) and inherent ability to make rapid liveweight gains. Farmers rearing calves from dairy herds for sale as meat vealers normally mate their cows to Friesian or to recognised beef breed bulls.

Sheep

The table below shows the trend in sheep numbers on rural holdings since 1948:

Sheep on Rural Holdings At 31 March
(⁰⁰⁰)

Year	Sheep	Year	Sheep	Year	Sheep	Year	Sheep
1948	2,087	1954	2,465	1960	3,494	1966	4,127
1949	2,160	1955	2,595	1961	3,439	1967	4,321
1950	2,170	1956	2,673	1962	3,532	1968	4,428
1951	2,182	1957	2,943	1963	3,570	1969	4,395
1952	2,338	1958	3,298	1964	3,600	1970	4,560
1953	2,422	1959	3,536	1965	3,793	1971	4,517

The next table shows the geographical distribution of sheep, also the various descriptions and details of the lambing season:

Description of Sheep at 31 March 1971 and Lambing, 1970 Season, in Statistical Divisions

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Holdings with Sheep ..	1,632	1,354	567	1,921	1,058	..	1,058	4,611
Sheep—								
Rams (1 Year and Over)	18,714	15,134	12,688	27,822	4,591	..	4,591	51,127
Breeding Ewes	806,718	541,394	467,425	1,008,819	178,109	..	178,109	1,993,646
Other Ewes (1 Year and Over) ..	103,021	59,086	51,975	111,061	11,978	..	11,978	226,060
Wethers (1 Year and Over) ..	565,200	212,215	268,021	480,236	30,032	..	30,032	1,075,468
Lambs and Hoggets (Under 1 Year) ..	510,430	280,942	278,180	559,122	101,394	..	101,394	1,170,946
Total ..	2,004,083	1,108,771	1,078,289	2,187,060	326,104	..	326,104	4,517,247
Lambing, 1970 Season—								
Ewes Mated	747,368	529,654	431,306	960,960	180,408	..	180,408	1,888,736
Lambs Marked	679,640	477,676	376,858	854,534	170,699	..	170,699	1,704,873
Number Marking Ratio (a)	90.9	90.2	87.4	88.9	94.6	..	94.6	90.3

(a) Lambs marked as percentage of ewes mated; lamb mortality is one of the factors affecting marking ratios.

The following table summarises the descriptions of sheep on a State basis and also gives details of lambing:

Description of Sheep at 31 March and Details of Lambing: Summary

Particulars	1961	1966	1967	1968	1969	1970	1971
Holdings with Sheep ..	5,764	5,276	5,224	5,294	5,096	4,815	4,611
Sheep ('000)—							
Rams (1 Year and Over)	42	45	47	49	50	50	51
Breeding Ewes	1,552	1,826	1,997	1,954	2,023	2,026	1,994
Other Ewes (1 Year and Over)	200	172	164	203	174	195	226
Wethers (1 Year and Over)	850	951	1,022	1,072	1,041	1,064	1,075
Lambs and Hoggets (Under 1 Year) ..	795	1,133	1,090	1,150	1,105	1,225	1,171
Total	3,439	4,127	4,321	4,428	4,395	4,560	4,517
Lambing (a)—							
Ewes Mated .. ('000)	1,378	1,651	1,688	1,779	1,736	1,831	1,889
Lambs Marked—							
Number .. ('000)	1,267	1,594	1,574	1,522	1,561	1,715	1,705
Marking Ratio (b) ..	91.9	96.5	93.3	85.6	89.9	93.6	90.3

(a) In the season preceding the year named.

(b) Lambs marked as percentage of ewes mated.

Breeds of Sheep

The Merino is the mainstay of the Australian wool industry and accounts for over 75 per cent of the Australian sheep population. However, in Tasmania the predominant sheep breeds are Polwarth and Corriedale; both were originally developed from Merino cross-breeds. A new sheep breed, the 'Cormo', is being developed in Tasmania to suit local conditions; the aim is to produce a highly-fertile breed having a high yield of fine wool and good body conformation.

Over the last 10 years, the breeds of sheep reported by growers have shown a trend in favour of Polwarths. Corriedale numbers, after showing a small but consistent increase for some years, are now exhibiting an opposite trend. The following table shows the percentage of the main breeds of sheep (including rams):

**Proportion of Breeds of Sheep at 31 March
(Per Cent)**

Breed	1961	1966	1967	1968	1969	1970	1971
Polwarth	31.2	39.3	39.9	40.5	41.7	42.5	43.6
Corriedale	14.0	18.6	19.5	18.0	17.3	15.4	14.4
Merino	10.2	8.7	8.0	7.1	7.7	7.9	8.9
Romney Marsh	2.6	2.1	2.2	2.0	1.9	1.2	1.3
Other Breeds (a)	4.9	3.4	3.0	3.0	3.3	3.9	4.9
Comebacks	11.4	10.0	10.5	10.7	11.1	12.6	11.8
Cross-breeds	25.7	17.9	17.0	18.7	17.0	16.4	15.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Recognised breeds of sheep which individually, in 1971, accounted for about one per cent or less of all sheep; includes Cheviot, Dorset Horn, Border Leicester, English Leicester, Ryeland, Southdown, Suffolk, Lincoln, Poll Dorset, Shropshire and Cormo.

The majority of all breeds of sheep are run on improved pastures. However, particularly in the Midlands, use is made of considerable areas of unimproved 'run' country for Polwarths, Comebacks and Merinos. The Central Plateau also provides summer grazing, particularly for wethers.

Pigs

The geographical distribution of pigs, by statistical division, is shown in the next table:

Distribution of Pigs in Statistical Divisions at 31 March 1971

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	
Holdings with Pigs ..	415	592	297	889	825	5	830	2,134
Pig Numbers—								
Boars ..	222	497	305	802	811	4	815	1,839
Breeding Sows ..	2,007	4,447	2,306	6,753	7,058	23	7,081	15,841
Other (a) ..	9,692	27,510	14,529	42,039	43,123	102	43,225	94,956
Total Pigs	11,921	32,454	17,140	49,594	50,992	129	51,121	112,636

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

The concentration of pigs in the North Western Sub-division has been related to the fact that this is the main dairying area and that pig-raising has traditionally been associated with dairying. This association still exists but pigs are usually no longer a sideline on dairy farms. Since the advent of bulk milk collection, the dairyman has had an alternative market for skim milk: thus, while a steady increase in the pig population has taken place, a decline in the number of pig producers has occurred. On those dairy farms still producing pig meat, pig numbers have increased and in many cases the income from pigs often equals that from cows. Pig meat prices have remained at a favourable level, compared with other farm produce, over the last five to six years and this, combined with depressed prices in the wool industry, has attracted some fine-wool and fat-lamb producers into pig-raising. A change to the intensive system of pig production, in which all pigs are permanently housed, is now becoming evident.

Pig Population

The pig population at 31 March each year is not, in itself, a very significant figure. It is possible for a sow to produce two litters within the one year and the offspring to number more than 10 in each litter. It follows, therefore, that the real measure of activity in pig-raising is not so much the size of the pig herd at a particular point in time but rather the number of pigs slaughtered and the dressed carcass weight of the meat so produced; such information is given in the 'Livestock Products' section of this Chapter.

In the previous table, the most significant item is the number of breeding sows. A sow can be mated at nine or ten months and the gestation period is a mere four months. In recent years, there has been a tendency to wean piglets at a much younger age than the traditional eight weeks; this has been made possible by a better knowledge of the nutritional requirements of the young pig. Early weaning calls for more skilled management but has the advantages of avoiding heavy weight loss by the sow and reducing the period between litters.

The following table shows, in summary form, the number of holdings with pigs and pig numbers according to the main descriptions:

Pigs on Rural Holdings at 31 March

Year	Holdings with Pigs	Boars	Breeding Sows	Other (a)	Total Pigs
1955	4,235	1,608	9,065	47,709	58,382
1960	3,681	2,075	10,730	54,313	67,118
1965	3,315	2,327	14,578	75,116	92,021
1968	2,545	1,840	13,227	71,450	86,517
1969	2,400	2,001	15,213	78,149	95,363
1970	2,302	1,978	16,629	92,668	111,275
1971	2,134	1,839	15,841	94,956	112,636

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

LIVESTOCK PRODUCTS

Value of Production

The statistics in the following section refer, in the main, to quantities of livestock products. The associated values will be found under 'Value of Production' in Chapter 8.

Wool

In a report in 1836, the Colonial Secretary, John Montagu, described the early export trade in wool: 'It appears that the quantity of Wool imported into England from N.S.W. and Van Diemen's Land in 1810 was 167 lbs; in 1820, it amounted to 99,415 lbs; in 1825, to 323,995 lbs. From 1827, the returns for the two Colonies are separated.'

Prices in 1824 varied from two and a half cents to five cents per lb but, by 1836, they had increased to range from 15 to 25 cents. The progress of wool production in the remainder of the 19th century can be gathered from the following table (compiled from export figures, since production details were not collected for the whole period):

Exports of Wool (a) (Overseas and Interstate): Historical Summary
(⁰⁰⁰ lb)

Year	Quantity	Year	Quantity	Year	Quantity
1835	2,429	1860	4,538	1885	5,774
1840	3,637	1865	4,924	1890	8,984
1845	3,662	1870	4,147	1895	7,223
1850	5,885	1875	6,199	1900	6,754
1855	5,858	1880	9,025	1905	9,566

(a) The figures relate basically to greasy wool but a small proportion of washed wool is included in the later years.

Unfortunately the above series cannot be carried through the period 1910-1922 due to lack of interstate trade figures, or through the period 1922-1951 because 'pure' greasy wool export figures (i.e. separated from scoured wools and tops and noils) are not available. Export details for recent years are as follows:

Exports of Wool, Greasy (Overseas and Interstate)
(⁰⁰⁰ lb)

Year	Quantity	Year	Quantity	Year	Quantity
1956-57	20,707	1961-62	27,209	1966-67	35,802
1957-58	23,659	1962-63	26,278	1967-68	30,854
1958-59	25,167	1963-64	25,086	1968-69	34,830
1959-60	27,977	1964-65	30,329	1969-70	36,404
1960-61	24,403	1965-66	34,376	1970-71	37,800

It should be noted, however, that not all Tasmanian wool is exported, some being used, after scouring, etc., for manufacturing purposes within the State; any locally processed wool exported would not be classified under greasy wool.

Wool Production

For statistical purposes, the total amount of wool produced in the State in any year consists not only of the 'clip' (shorn wool) but also of the wool on skins, irrespective of whether it is actually removed by local fellmongers or exported on skins. Production figures for the latest 10-year period are:

Wool Production (a) Since 1961-62
(⁰⁰⁰ Lb)

Year	Shorn Wool (including Crutchings)	Fell- mongered and Dead Wool, and Wool Exported on Skins	Total	Year	Shorn Wool (including Crutchings)	Fell- mongered and Dead Wool, and Wool Exported on Skins	Total
1961-62 ..	30,039	4,430	34,469	1966-67 ..	38,687	4,466	43,153
1962-63 ..	30,318	4,243	34,561	1967-68 ..	33,700	4,608	38,308
1963-64 ..	29,597	4,410	34,007	1968-69 ..	41,789	5,167	46,956
1964-65 ..	35,619	4,052	39,671	1969-70 ..	42,790	5,405	48,195
1965-66 ..	36,948	4,910	41,858	1970-71 ..	42,251	5,524	47,775

(a) Fellmongered wool converted to greasy wool equivalent weight.

In previous tables, dealing with exports, a gap exists between 1905 and 1950-51 but production statistics are available as follows:

Total Wool Production (a): Historical Summary
(⁰⁰⁰ Lb)

Year	Production	Year	Production	Year	Production
1905	11,753	1929-30	15,000	1954-55	23,797
1910	13,339	1934-35	14,035	1959-60	33,600
1914-15	12,049	1939-40	18,334	1964-65	39,671
1919-20	13,069	1944-45	16,324	1969-70	48,195
1924-25	12,483	1949-50	16,958	1970-71	47,775

(a) Total wool production, including shorn, dead and fellmongered wool and wool exported on skins; fellmongered converted to greasy wool equivalent weight.

Greasy Wool Equivalent

Fellmongered wool included in previous total production figures has been attributed a weight as though it were *greasy* wool, although the original information is received in terms of the weight of *scoured* wool recovered by fellmongering. The method of conversion is as follows: as 100 lb of *greasy* yields 60 lb of *clean*, and 100lb of *scoured* (fellmongered) yields 80lb of *clean*, it follows that 100 lb of *scoured* (fellmongered) is equivalent to 133 lb of *greasy*. The factors in the example are only approximations of those which are obtained from woollscourers (*greasy/clean* relativity) and fellmongers (*scoured/clean* relativity). Conversion of such wool to a greasy wool equivalent is necessary to put all the components of total production on a common basis.

Shorn Wool

The principal months for shearing in Tasmania are October, November and December, but during the last two or three years an increasing number of farmers have been shearing outside the traditional spring period. Such practices not only facilitate flock and property management but also provide more continuous employment for shearers and shed hands. The following table gives shearing details for recent years:

Shearing and Shorn Wool Obtained

Year Ended 31 March				Numbers Shorn			Shorn Wool Obtained			Average Yield		
				Sheep	Lambs	Total	From Sheep (a)	From Lambs	Total	From Sheep (a)	From Lambs	Total
				'000	'000	'000	'000 lb	'000 lb	'000 lb	lb	lb	lb
1961	..	..	..	2,945	733	3,678	26,193	1,688	27,881	8.89	2.30	7.58
1967	..	..	..	3,542	975	4,517	36,210	2,477	38,687	10.22	2.54	8.56
1968	..	..	..	3,673	899	4,572	31,648	2,052	33,700	8.62	2.28	7.37
1969	..	..	..	3,703	928	4,632	39,317	2,472	41,789	10.62	2.66	9.02
1970	..	..	..	3,753	1,039	4,792	40,145	2,645	42,790	10.70	2.54	8.93
1971	..	..	..	3,864	942	4,806	39,781	2,470	42,251	10.30	2.63	8.79

(a) Includes crutchings from sheep.

The next table shows the geographical distribution of shorn wool production:

Shearing and Shorn Wool Obtained (a) in Statistical Divisions, 1970-71

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar	North Eastern	Total	North Western	Western	Total	

NUMBER SHORN ('000)

Sheep	1,718	953	941	1,894	251	..	251	3,864
Lambs	368	251	252	504	71	..	71	942

SHORN WOOL OBTAINED ('000 LB)

From—Sheep ..	17,649	9,568	10,258	19,827	2,305	..	2,305	39,781
Lambs	829	646	738	1,384	257	..	257	2,470
Total	18,479	10,214	10,996	21,210	2,562	..	2,562	42,251

AVERAGE YIELD (b) (LB)

Sheep	10.27	10.04	10.90	10.47	9.17	..	9.17	10.30
Lambs	2.26	2.57	2.93	2.75	3.63	..	3.63	2.63

(a) Includes crutchings from sheep.

(b) Per sheep or lamb shorn.

Wool Auctions

The bulk of Tasmanian shorn wool is marketed in Hobart and Launceston at auctions organised by the wool-selling brokers. Prior to 1969-70 three auction sales were held per year i.e. November, February and May. Approximately one-third of the season's clip was auctioned at the first sale, in excess of 50 per cent at the February sale and the remainder in May.

As from 1969-70 a four-sale season was introduced with sales in October, December, February and June. This move had the effect of creating a more equitable distribution of sales over the selling season although the February sale still remains the most important, accounting for 37 per cent of the 1970-71 sales compared with 47 per cent in 1968-69.

During 1970-71, 15 per cent was auctioned in October; 24 per cent in December; 37 per cent in February and 24 per cent in June. In addition, some wool is bought direct from growers by dealers and by local manufacturers of woollen goods. A small proportion of the State's wool is marketed at Victorian auctions, growers on King Island and Flinders Island tend to use this outlet because of sea transport factors.

The following table shows the average price of shorn greasy wool sold at Tasmanian auctions in selected years since World War II and also the value of all wool produced. The record price (150.05 cents) can be associated with the Korean War and strategic stockpiling but it is significant that the 1970-71 price (33.57 cents) is the lowest recorded since 1946-47. Higher prices were recorded for the 1971-72 season.

Tasmanian Average Auction Price and Total Value of Wool Produced

Year	Average Auction Price per lb of Shorn Greasy Wool	Total Value of Wool Produced (a)	Year	Average Auction Price per lb of Shorn Greasy Wool	Total Value of Wool Produced (a)
	cents	\$'000		cents	\$'000
1946-47	23.00	3,880	1962-63	55.12	17,772
1948-49	46.92	7,530	1963-64	67.40	21,352
1950-51	150.05	24,226	1964-65	49.35	19,050
1952-53	67.42	12,758	1965-66	56.20	22,405
1954-55	63.75	14,464	1966-67	50.85	20,983
1956-57	71.82	19,948	1967-68	43.72	15,609
1958-59	43.99	13,688	1968-69	47.90	21,180
1960-61	48.18	14,458	1969-70	39.88	18,081
1961-62	48.62	15,752	1970-71	33.57	14,983

(a) Includes value of shorn wool, fellmongered and dead wool and estimated value of wool exported on skins. Excludes profits of \$3,201,510 arising from the War-time Wool Disposals Plan and distributed to growers in the period 1949-50 to 1954-55.

The preceding price series refers only to shorn greasy wool sold at auction. In arriving at the value series for all wool produced, account is taken not only of wool sold at auction but also of direct growers' sales to dealers, manufacturers and fellmongers plus estimated value of wool exported on skins.

The metric system was introduced to the Australian wool industry as from the 1971-72 wool selling season. Commencing in July 1971, all wool has been sold in kilograms and in subsequent issues of this publication, all wool statistics (production, sales, exports, etc.) will be recorded in kilograms.

Classification of Greasy Wool Sold at Auction

The following information is compiled by the Wool Statistical Service of the Australian Wool Board on the basis of catalogues of auction sales. 'Quantity' (64s, 60s, 58s, etc.) is a measure of the fineness of wool for spinning purposes. Broadly, it means the maximum number of hanks of yarn, each of 560 yards in length, which can be spun from one pound of combed wool. For instance, wool of 64s quality is of a fineness and texture which will produce 64 hanks, each of 560 yards, from one pound of tops (combed wool) of that particular wool.

The next table shows the proportions of each quality of wool sold at auction for recent years:

Classification of Greasy Wool Sold at Tasmanian Auctions According to Quality
(Source: Australian Wool Board)

Predominating Quality	Proportion of Each Quality (Per Cent)					
	1959-60	1965-66	1966-67	1967-68	1968-69	1969-70
70s and Finer	5.5	5.2	4.5	5.2	4.9	4.8
64/70s	2.6	2.3	2.4	2.1	2.1	1.6
64s	3.9	3.2	3.1	3.9	2.9	2.6
64/60s	0.5	0.7	0.6	0.7	0.6	0.3
60/64s	9.2	8.7	6.6	9.5	7.2	6.0
60s and 60/58s	17.4	17.3	15.3	17.6	16.3	15.9
Total 60s and Finer	39.1	37.4	32.5	39.0	34.0	31.2
58s	23.7	29.4	31.7	27.4	30.4	31.9
56s	20.1	19.8	20.4	18.2	19.9	18.4
50s	10.2	8.1	9.3	8.3	9.8	11.2
Below 50s	4.9	3.3	3.9	3.6	4.1	5.2
Oddments	2.0	2.0	2.2	3.5	1.8	2.1
Total All Wool ..	100.0	100.0	100.0	100.0	100.0	100.0

Clean Wool Yield

The Tasmanian proportion of auctioned greasy wool classified as '60s and finer' in recent years has ranged from 31 to 44 per cent whereas the corresponding Australian proportion exceeds 70 per cent. In the matter of price, however, the Tasmanian auction average is usually a few cents above the Australian auction average. Tasmanian averages, with Australian equivalents in brackets have been (in cents): 1967-68, 43.72 (41.75); 1968-69, 47.90 (44.67); 1969-70, 39.88 (37.55); 1970-71, 33.57 (29.34). This apparent contradiction is explained by taking into account a second factor, not included in the foregoing quality analysis, namely the yield of clean wool that can be obtained from greasy wool. In respect of this factor, Tasmanian wools tend to yield higher than Australian; both natural and artificial environmental factors operate to the advantage of the Tasmanian clip. Evidence of this peculiarity of Tasmanian wool is provided in the next table:

Average Clean Yield of Wool Clip, Tasmania and Other Australian States
(Source: Australian Wool Board)

State of Sale (a)	Percentage of Clean Yield from Greasy Wool					
	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
N.S.W.	56.48	56.19	55.91	56.52	56.27	57.49
Victoria	59.05	59.72	58.70	59.58	59.83	59.19
Queensland	56.10	54.68	54.68	54.65	53.15	53.30
S.A.	53.67	54.00	52.53	55.14	53.98	53.49
W.A.	55.43	55.55	55.01	56.39	54.17	53.53
Tasmania	62.95	62.99	62.14	63.66	63.50	63.38
Australia	56.90	56.94	56.13	57.10	56.61	56.75

(a) Wool from other Australian States is not sold at Tasmanian auctions so, for Tasmania, 'State of Sale' and 'State of Origin' are virtually the same except that some wool from Tasmania (mainly King and Flinders Islands) is sold at Victorian auctions.

As the previous figures suggest, Tasmanian wool is free from dust and vegetable matter than wool produced in the other States.

While the proportion of fine wool (60s and finer) is comparatively low in the Tasmanian clip (since the State is historically and climatically a producer of crossbred wool), growers offering '60s and finer' sell a high proportion of superfine Merino wool at premium prices; this factor also operates to raise Tasmanian average auction prices above the Australian average.

Meat

Slaughtering

To fully record the level of meat production for human consumption, statistics should deal with operations in abattoirs, other slaughtering establishments and factories; slaughtering on farms also needs to be taken into account. Information on this complete basis did not become available before 1912, previous statistics relating only to slaughtering in Hobart and Launceston. The following table has been compiled to give an indication of slaughtering activity from 1912 to the present day:

Stock Slaughtered (a) for Human Consumption: Historical Summary ('000)

Year	Cattle and Calves	Sheep and Lambs	Pigs	Year	Cattle and Calves	Sheep and Lambs	Pigs
1912	29	216	16	1954-55 ..	75	643	79
1915	32	309	32	1959-60 ..	145	1,166	115
1924-25 ..	36	276	55	1964-65 ..	174	987	135
1929-30 ..	35	342	64	1966-67 ..	170	1,159	149
1934-35 ..	38	349	51	1967-68 ..	172	1,125	143
1939-40 ..	48	461	73	1968-69 ..	178	1,241	139
1944-45 ..	47	509	58	1969-70 ..	178	1,297	160
1949-50 ..	58	508	51	1970-71 ..	r 162	r 1,394	r 171

(a) In all registered slaughtering establishments and on farms.

The next table, compiled on the same basis, analyses the items 'Cattle and Calves' and 'Sheep and Lambs':

Stock Slaughtered (a) for Human Consumption: Historical Summary ('000)

Year	Cattle and Calves				Sheep and Lambs			Pigs
	Bulls, Bullocks & Steers	Cows and Heifers	Calves	Total	Sheep	Lambs	Total	
1959-60 ..	47	57	41	145	505	661	1,166	115
1964-65 ..	53	71	50	174	425	562	987	135
1965-66 ..	47	61	47	154	567	597	1,164	146
1966-67 ..	52	67	51	170	552	607	1,159	149
1967-68 ..	58	66	48	172	600	525	1,125	143
1968-69 ..	68	64	45	178	568	673	1,241	139
1969-70 ..	79	66	33	178	608	689	1,297	160
1970-71 (b) ..	r 79	61	22	r 162	r 713	r 681	r 1,394	r 171

(a) In all registered slaughtering establishments and on farms.

(b) In 1970-71 the farm components of total livestock slaughtered were: cattle and calves, 794; sheep and lambs, 80,520; pigs, 1,714.

Meat Production

Statistics of actual carcass weight rather than numbers of stock slaughtered provide a more precise measure of actual meat production and annual trends. The necessary weight data are collected from abattoirs, factories and licensed slaughterhouses (including 'country butchers'); in the case of livestock killed on farms, only the numbers are available and the resulting carcass weight has to be estimated. Statistics in terms of carcass weight cover the same field as the previous tables on slaughtering. The following table shows details since 1924-25:

Production of Meat: Historical Summary
(⁰⁰⁰ Tons—Carcass Weight)

Year	Beef and Veal	Mutton and Lamb	Pigmeat (a)	Total Meat	Year	Beef and Veal	Mutton and Lamb	Pigmeat (a)	Total Meat
1924-25	8.1	5.0	2.5	15.6	1959-60 ..	23.1	20.8	5.4	49.3
1929-30	8.0	6.0	2.8	16.8	1964-65 ..	26.3	18.1	6.6	51.0
1934-35	8.1	6.0	2.3	16.4	1966-67 ..	24.7	20.9	7.2	52.8
1939-40	10.6	7.7	3.5	21.8	1967-68 ..	25.1	19.8	6.9	51.8
1944-45	9.2	9.2	3.0	21.4	1968-69 ..	27.9	22.5	7.0	57.4
1949-50	12.3	8.9	2.6	23.8	1969-70 ..	31.0	23.7	7.9	62.6
1954-55	13.7	11.9	3.4	29.0	1970-71 ..	r 29.4	r 25.7	r 8.4	r 63.5

(a) Includes pork for manufacture into bacon and ham.

The next table, compiled on the same basis, analyses the items 'Beef and Veal' and 'Mutton and Lamb'.

Production of Meat
(⁰⁰⁰ Tons—Carcass Weight)

Year	Beef and Veal			Mutton and Lamb			Pigmeat (a)	Total Meat
	Beef	Veal	Total	Mutton	Lamb	Total		
1964-65 ..	25.4	0.9	26.3	9.1	9.0	18.1	6.6	51.0
1965-66 ..	22.1	0.9	23.0	11.5	9.6	21.1	7.0	51.1
1966-67 ..	23.7	1.0	24.7	11.2	9.7	20.9	7.2	52.8
1967-68 ..	24.1	1.0	25.1	11.5	8.4	19.8	6.9	51.8
1968-69 ..	27.1	0.8	27.9	11.5	10.9	22.5	7.0	57.4
1969-70 ..	30.4	0.6	31.0	12.6	11.1	23.7	7.9	62.6
1970-71 ..	r 29.0	0.4	r 29.4	14.5	11.1	r 25.7	r 8.4	r 63.5

(a) Includes pork for manufacture into bacon and ham.

Export of Meat

As early as 1890, other Australian States were exporting frozen (and later, chilled) lamb, mutton, beef and veal to overseas destinations but the development of a similar meat export trade from Tasmania has been of comparatively recent origin. The first major step was in the field of fat lamb production when the 1931-32 season resulted in approximately 19,000 carcasses being exported overseas; unfortunately the establishment of this activity coincided with the economic depression of the 1930s and the attempt to introduce a new line in 'mixed' farming was at first discouraged by low prices. World War II saw a revival of demand with over 100,000 carcasses exported overseas in 1943-44, and after something of a decline in the early post-war period, exports climbed to 161,815 carcasses in 1959-60. In recent years lamb exports have included greater proportions of processed cuts and therefore statistics of the number of lamb carcasses exported are no longer collected.

The other major development has been the growth of an export trade in beef and veal, the first shipments overseas commencing in 1954-55; also exports of mutton, mainly to Japan and U.S.A., increased substantially in 1965-66 and have been maintained at a high level since then. The following are meat export figures expressed in tons. Export weights cannot be directly compared with production weights since the former include boneless meat and meat which has had its fat content reduced, while the latter are in terms of carcass weight.

**Total Exports of Meat, 1970-71
(Tons)**

Destination	Beef and Veal	Lamb	Mutton	Pork	Offal (Edible)	Bacon and Ham
Interstate	1,223	156	159	1,883	37	123
Overseas	6,084	969	4,115	..	679	..
Total	7,307	1,125	4,275	1,883	716	123

The importance of Tasmania's overseas meat trade can be judged from Australian Meat Board estimates of the percentage of Tasmanian production actually exported. The trend in recent years is shown in the following table:

**Proportion of Tasmanian Meat Production Exported Overseas (a)
(Source: Australian Meat Board)
(Per Cent)**

Type of Meat	1965-66	1966-67	1967-68	1968-69 <i>r</i>	1969-70	1970-71
Beef and Veal	24.7	31.5	29.8	30.9	<i>r</i> 34.6	32.7
Mutton	39.5	44.1	44.7	49.4	<i>r</i> 47.5	43.1
Lamb	12.2	10.8	3.3	8.8	10.1	6.6

(a) The estimated percentages are derived by converting actual export weights to a carcass weight equivalent, thus giving a basis for comparison with production figures.

Meat Export Works

In 1970-71 there were only six licensed export slaughtering establishments in Tasmania, two less than the previous year. These were in Launceston (two), Hobart, Devonport, Longford and King Island.

In broad terms, it is true to say that Tasmania has changed from a meat importing to a meat exporting State and this development can be related to the changed pattern of farming, the most significant indicator being the increase in the area of sown pasture and in the number of livestock carried.

Bacon and Ham

In the tables on meat production, the product from pig slaughtering has been referred to as 'pigmeat'. Approximately 19 per cent of Tasmania's pigmeat was converted in Tasmania to bacon and ham in 1970-71. Considerable quantities of pigmeat are also exported and used, in part, for making bacon and ham in other States. The next table summarises the production of bacon and ham since 1939-40:

Primary Industry—Rural

Production of Bacon and Ham
(Tons)

Year	Bacon and Ham			Year	Bacon and Ham		
	Factory (a)	Farm	Total		Factory (a)	Farm	Total (b)
1939-40 ..	1,142	150	1,292	1964-65 ..	1,158	13	1,171
1944-45 ..	1,122	68	1,190	1967-68 ..	1,281	n.a.	1,281
1949-50 ..	948	43	991	1968-69 ..	1,394	n.a.	1,394
1954-55 ..	992	35	1,027	1969-70 ..	1,381	n.a.	1,381
1959-60 ..	1,120	24	1,144	1970-71 ..	1,775	n.a.	1,775

(a) From 1959-60 includes small quantities made in establishments not classified as factories.

(b) Excludes farm production from 1967-68.

Dairy Products

In 1970-71 Tasmania's production of milk was 98,861,000 gallons which is four per cent below the previous record level of 1969-70. Milk used for cheese manufacture has increased from one per cent of total milk production in 1960-61 to 12 per cent during 1970-71. There was relatively little change in milk used for butter manufacture between 1963-64 and 1967-68 but usage for this purpose increased by 13 per cent in 1968-69 followed by a further, but much smaller, increase in 1969-70. A decrease of seven per cent was recorded in 1970-71.

The following table summarises milk production since 1954-55:

Milk Production and Milk Utilisation: Summary

Year	Quantity of Milk Used for—			Total Milk Production	Dairy Cows at 31 March	Average Annual Production of Milk per Dairy Cow
	Factory Butter	Factory Cheese	Other Purposes (a)			
	'000 gal	'000 gal	'000 gal	'000 gal	no.	gal
1954-55	38,737	548	12,736	52,021	111,781	485
1959-60	54,597	735	14,894	70,226	126,183	554
1962-63	60,877	1,440	16,201	78,518	141,255	570
1964-65	64,621	5,265	17,457	87,343	(b) 143,257	(c) 589
1966-67	66,520	8,411	16,636	91,567	149,148	591
1967-68	64,046	10,408	16,339	90,793	152,179	581
1968-69	72,546	12,837	16,781	102,164	152,894	647
1969-70	74,067	11,921	17,225	103,213	155,040	650
1970-71	69,097	12,239	17,525	98,861	153,402	623

(a) Milk used for 'Other Purposes' goes into the making of cream, ice cream, milk powder, concentrated milk, and other preserved milk products. It includes milk consumed as such. As from 1954-55, the milk equivalent of farm-made butter and cheese is also included.

(b) From 1963-64, the farm census recorded house cows (i.e. kept primarily for own milk supply) as a separate item excluded from the dairy cow population. It follows that figures for 1963-64 and subsequent years are not strictly comparable with those of previous years.

(c) Milk yielding population is taken as the mean of 'Dairy Cows—in Milk and Dry' and house cows, at 31 March in year of production and in preceding year. The figures should therefore be treated as an index rather than as an actual average quantity of milk produced per dairy cow.

Production of Butter and Cheese

The Australian dairying industry is capable of producing butter and cheese in quantities considerably greater than are required for domestic consumption but competition from other countries in overseas markets has resulted in low prices which tend to discourage exports. The solution to this problem has been in general terms to pool the returns from both domestic sales and overseas sales and to distribute from the pool to each individual factory, irrespective of whether its products are sold at home or abroad; in effect, a process of price equalisation operates, the higher domestic price being used to offset the lower overseas price. The administrative body implementing this scheme is the Commonwealth Dairy Produce Equalisation Committee Ltd.

The industry also receives subsidies from the Commonwealth Government under the provisions of the various Dairy Industry Assistance Acts, the first of which was passed in 1942. Under the fifth Five Year Plan, subsidies of \$27.0 million per annum are distributed by the Commonwealth Dairy Produce Equalisation Committee Ltd through factories to milk producers by payments on butter and cheese manufactured. It follows, then, that in the marketing of butter and cheese, two factors are in operation: (i) price equalisation directly affecting the return to factories; and (ii) subsidies directly affecting the return to producers of milk for butter and cheese.

In 1971-72 the Commonwealth Government guaranteed a subsidy of \$9.40 a cwt of butter-fat produced for butter and cheese production. Export producers of processed milk products in 1971-72 will receive a maximum bounty of \$800,000 under the current plan which commenced on 1 July 1967.

Farmers in the past traditionally 'separated' their milk, producing a cream concentrate for delivery to the butter factory; the residue, skim milk, was used to feed pigs. Most factories now buy whole milk because they have diversified their output to include casein (a raw material for synthetic fibres, etc.) and dried skim milk.

Farm production of butter and cheese in the post World War II period fell to such low levels that collection of details was discontinued after 1964-65.

It should be noted that the Commonwealth subsidy is applicable to factory butter and cheese but not to the same products manufactured on farms; the decline in farm production is probably related in part to this factor.

Although Tasmanian butter factories had been in operation before the turn of the century it was not till 1911 that annual factory production exceeded 1,000 tons and even by 1938-39 factory butter output was only approximately 4,000 tons.

The following table shows details of factory production of butter and cheese since 1961-62:

**Factory Production of Butter and Cheese
(Tons)**

Year	Butter (a)	Cheese	Year	Butter (a)	Cheese
1961-62	12,063	605	1966-67	14,311	3,763
1962-63	13,097	643	1967-68	13,778	4,646
1963-64	13,667	1,337	1968-69	15,764	5,728
1964-65	13,903	2,350	1969-70	16,085	5,322
1965-66	14,004	2,942	1970-71	15,032	r 5,468

(a) Includes butter equivalent of butter oil.

Disposal of Butter

Tasmania is a butter exporting State as shown in the following table:

**Butter (a): Production, Exports and Local Consumption
(Tons)**

Year	Production (Farm and Factory)	Net Exports (b)	Local Consump- tion (c)	Year	Production (Farm and Factory)	Net Exports (b)	Local Consump- tion (c)
1961-62 ..	12,181	7,457	4,467	1966-67 ..	14,311	10,079	4,408
1962-63 ..	13,193	8,642	4,521	1967-68 ..	13,778	9,396	4,698
1963-64 ..	13,763	8,227	4,885	1968-69 ..	15,764	9,572	4,448
1964-65 ..	13,999	10,231	4,527	1969-70 ..	16,085	13,073	4,650
1965-66 ..	(d)14,004	9,295	4,390	1970-71 p..	15,032	10,493	4,622

(a) Includes butter equivalent of butter oil.

(b) Net and gross are identical as there were no imports during the years shown. Includes overseas and inter-state exports.

(c) Quantity of butter released for Tasmanian market (as supplied by the Commonwealth Dairy Produce Equalisation Committee Ltd) less the butter content of major commodities exported.

(d) Excludes farm production from 1965-66.

Consumption of Butter

Over the last 10 years there has been a decline of about three pounds per person in the annual Tasmanian consumption of butter. The decline may be partly attributed to the greater use of margarine. However, in 1970-71 the State's average butter consumption of 26.6 lb per head of population was still well above the corresponding Australian figure of about 20.3 lb per person.

Bee-Farming

Bee-farming is a relatively small industry in Tasmania, the main Australian producing State being New South Wales. The next table, which summarises bee-keeping statistics over a period of 10 years, is restricted to details from apiarists with five or more hives.

Bee-Farming

Year	Apiarists	Hives	Honey Produced		Beeswax Produced	
			Quantity	Average per Productive Hive	Quantity	Average per Productive Hive
	no.	no.	'000 lb	lb	'000 lb	lb
1960-61	175	6,429	441	92.7	4.8	1.02
1964-65	202	8,373	715	114.5	10.1	1.61
1965-66	229	9,305	630	94.0	8.0	1.20
1966-67	223	9,668	386	59.0	6.5	1.00
1967-68	232	9,799	841	114.2	12.7	1.72
1968-69	213	9,210	671	91.8	10.6	1.45
1969-70	220	10,209	821	103.4	12.6	1.58
1970-71	277	11,680	1,002	107.9	14.1	1.52

Of the 277 apiarists with five or more hives in 1970-71, 23 with 100 or more hives contributed 83.9 per cent of the total honey produced.

A proportion of the larger commercial apiarists can be described as 'migratory' in the sense that they seasonally move their hives for access to leatherwood growing in the Western Sub-division and near the new Lake Gordon. Leatherwood, *Eucryphia lucida*, from which a distinct-

ively flavoured honey is produced, has a large white flower and the species is unique to Tasmania. The quantity of leatherwood honey produced varies considerably from year to year depending upon the amount of blossom and weather conditions. In 1970-71 it accounted for 56 per cent of total honey production compared with only 21 per cent in 1966-67. Some hives are also moved into orchard and small fruit areas at blossom time. The sources of honey for the Tasmanian market and estimated honey consumption per head of population are shown in the following table:

Production and Consumption of Honey

Average for Three Years Ended—	Production	Imports	Exports	Balance Available For Local Consumption (a)	Estimated Average Consumption Per Person
	'000 lb	'000 lb	'000 lb	'000 lb	lb
1960-61	360	149	61	447	1.30
1970-71	831	180	653	359	0.93

(a) Production *plus* imports *less* exports.

Poultry Farming

Introduction

Until recent years, little statistical information has been available on the poultry industry in Tasmania, principally due to difficulties of collection and adequate coverage, but changes in legislation and other factors have now made it possible to collect and compile more detailed data.

Poultry Numbers and Egg Production

Household Production: Many householders have small flocks of up to 20 birds (i.e. below the legal minimum requiring registration and payment of fees) and surveys suggest that these 'back-yard' flocks may produce up to 50 per cent of all eggs. However, no accurate statistics are available for this component and it is excluded from the tables that follow.

Commercial Producers: Producers with small flocks over the legal minimum size (more than 20 birds) may nevertheless keep them mainly for their own use rather than for sale of the eggs and accordingly it was also decided to exclude from the statistics, producers with less than 100 birds (of all types); the Bureau's 1966-67 census of the poultry industry established that producers in this excluded category numbered 213 but owned only three per cent of the total number of hens and laying pullets in commercial flocks in Tasmania.

In the poultry industry, as in many other primary industries, there has been a trend to fewer but larger establishments in recent years. In 1967 there were 196 poultry farms with a total of 189,600 hens and laying pullets; by 1971 the number of farms had decreased to 125 with 201,500 hens and laying pullets. A size classification of the 125 farms in 1971 shows that 16 farms (only 13 per cent of farm numbers) possessed 59 per cent of the laying stock. Some 50 per cent of the poultry farms had less than 500 laying birds each.

The following table shows: (i) the number of poultry on the 125 poultry farms which reported a total of 100 or more birds of all types at 30 June 1971; and (ii) the eggs produced from hens and pullets during 1970-71.

Primary Industry—Rural

Poultry Numbers and Egg Production, 1970-71
Commercial Producers Only (a)

Statistical Division and Sub-division	Poultry Farms (a)	Poultry Numbers at End of Year			Eggs Produced During Year (b)
		Hens and Laying Pullets	Other Fowls	Ducks and Drakes, Turkeys and Geese	
	no.	'000	'000	'000	'000 doz
Hobart	33	74.6	10.0	..	1,144.7
Southern	32	42.0	219.0	4.1	849.0
Northern—Tamar	31	46.3	13.0	0.2	808.5
North Eastern	6	10.5	0.3	..	150.0
Total	37	56.7	13.3	0.2	958.5
Mersey-Lyell—North Western	23	28.2	16.0	1.1	473.4
Western .. .. .	..	..	..	..	..
Total	23	28.2	16.0	1.1	473.4
Total Tasmania	125	201.5	258.3	5.6	3,425.6

(a) Includes only producers with a total of 100 or more birds of all kinds.

(b) Hen and pullet eggs only. Includes 176,383 dozen eggs produced by commercial poultry farms which ceased production before 30 June 1971.

Size Structure of Slaughtering Industry

The following table classifies slaughtering establishments according to the number of birds slaughtered:

Number of Poultry Slaughtered According to Size of Establishment, 1970-71

Size of Establishment (Number of Birds Slaughtered) (a)	Number of Establish- ments	Number of Birds Slaughtered			Total Birds Slaughtered	
		Chickens (b)	Other Fowls (c)	Ducks and Drakes, Turkeys and Geese	Number	Proportion of Total
		'000	'000	'000	'000	per cent
100- 500	27	4	3	..	7	0.6
501- 1,000	5	..	3	..	4	0.3
1,001- 1,500 .. .. .	..	..	..	..	..	..
1,501- 2,000	2	..	3	..	3	0.2
2,001- 3,000	2	4	2	..	6	0.5
3,001- 5,000	2	8	..	..	9	0.7
5,001-10,000	1	7	..	..	7	0.6
10,001-20,000	3	15	14	5	34	2.7
Over 20,000	6	1,064	93	22	1,180	94.5
Total	48	1,103	119	28	1,249	100.0

(a) Classified according to number of birds of all kinds slaughtered.

(b) Including broilers, fryers and roasters.

(c) Hens, roosters, etc.

Poultry Slaughtering

Poultry slaughtering statistics were first collected in 1960-61 from all known establishments slaughtering 100 or more birds (of all types) annually; up to 1964-65, only numbers slaughtered were sought but from 1965-66 data were expanded to include both live and dressed weight. The next table shows the information available for a three-year period:

Number and Weight of Poultry Slaughtered (a)

Year	Poultry Slaughtered				
	Number	Live Weight		Dressed Weight (b)	
		Total	Average per Bird	Total	Average per Bird
	'000	'000 lb	lb	'000 lb	lb
CHICKENS (c)					
1968-69	1,001	3,881	3.9	2,866	2.9
1969-70	978	3,476	3.6	2,566	2.6
1970-71	1,103	4,083	3.7	2,936	2.7
OTHER FOWLS (d)					
1968-69	131	638	4.9	477	3.4
1969-70	115	503	4.4	363	3.2
1970-71	119	585	4.9	390	3.3
DUCKS AND DRAKES, TURKEYS AND GESE					
1968-69	37	255	6.8	196	5.3
1969-70	35	265	7.5	205	5.8
1970-71	28	244	8.7	190	6.8

(a) Includes only establishments slaughtering 100 or more birds of all kinds.

(b) Includes weight of whole birds, pieces and giblets.

(c) Including broilers, fryers and roasters.

(d) Hens, roosters, etc.

The trend in poultry slaughtering in recent years has been towards larger establishments. In 1965-66 there were 95 establishments slaughtering 100 or more birds (of all types). Nine establishments killing more than 5,000 birds each a year, slaughtered a total of 606,000 birds. By 1970-71, however, there were only 48 establishments killing 100 or more birds, 10 of which slaughtered over 5,000 birds each, or a total of 1,221,000 birds. The dressed carcass weight of birds slaughtered in the final group of establishments in the previous table (over 20,000) was 3,309,000 lb; for all establishments in the table, the total was 3,517,000 lb. In 1965-66 the over 20,000 birds size-group accounted for 83.3 per cent of the number of birds slaughtered and in 1970-71, 94.5 per cent.

A principal factor in creating a larger poultry slaughtering industry has been the marketing of quick-frozen birds through supermarkets, delicatessens, grocers, etc. Before freezing cabinets were in general use, poultry was mainly sold by butchers; refrigeration techniques have had the effect of multiplying the sales outlets. Large-scale production has also cut unit costs.

RURAL POPULATION AND EMPLOYMENT**Employment on Rural Holdings**

The following table gives details of males working on rural holdings as reported in the annual farm census at 31 March:

Male Farm Workers at 31 March

Particulars	1961	1967	1968	1969	1970	1971
Number of Rural Holdings (One Acre and Over)	11,201	10,641	10,631	10,384	10,159	9,926
Permanent Full-time Workers—						
Owners, Lessees or Share Farmers ..	7,615	7,564	7,158	6,915	6,760	6,652
Relatives of Owners, etc. (Over Fourteen Years) not Receiving Wages..	189	5				
Employees (a)	4,293	4,101	4,051	3,842	3,485	3,082
Total	12,097	11,670	11,209	10,757	10,245	9,734
Temporary Workers on Wages or Contract	5,300	4,773	4,621	4,831	4,609	4,703

(a) Includes managers and relatives receiving wages or salaries.

Female Workers on Rural Holdings

Similar details of female employment are not available due to a definitional difficulty in establishing in what degree a woman performing ordinary domestic duties on a rural holding performs other rural tasks that justify her classification as a permanent full-time rural worker, in the same sense that the term is applied to a male.

Permanent Residents on Rural Holdings

Persons of all ages residing permanently on rural holdings (as defined for statistical purposes) numbered 20,352 males, 18,277 females, or a total of 38,629 persons at 31 March 1971. This total is 25 per cent less than that recorded 10 years earlier.

When those of school and lower ages, and women engaged in domestic duties, etc. have been excluded, the remaining rural population is not necessarily engaged full-time in farming. Some who are included in farm population devote much of their time to non-farming activities such as working in commercial or industrial enterprises, commercial fishing, sawmilling, etc. (which is only to be expected since a rural holding may be as small as one acre).

TECHNICAL ASPECTS OF RURAL INDUSTRY

Artificial Breeding

Introduction

Artificial breeding is a technique applicable to animals, birds and bees, whereby a female is inseminated artificially with semen collected from a male. In Tasmania, its main application has been in cattle and is used to a lesser extent for pigs.

Use of artificial breeding allows more effective use of superior bulls; in addition, infertility diseases such as *vibriosis*, *brucellosis* and *trichomoniasis*, all of which are transmitted by bulls, can be more effectively controlled.

In Tasmania most artificial breeding activities are undertaken by the Artificial Breeding Board which operates a Semen Production Centre at Hadspen Park and eight artificial insemination centres, although some activities are carried out from private centres.

Semen Imports

Semen can be imported into Tasmania from all Australian States, New Zealand, United Kingdom, Canada and Ireland. Since the lifting of export restrictions in the United Kingdom in 1968 the bulk of importations have been made from this country. The main interest has been in

Charolais, a French beef breed, but smaller quantities of semen from other beef and dairy breeds have also been imported. It is likely that the first consignments of semen from Canada and Ireland will be available in March 1973.

Semen Exports

Semen produced at Hadspen Park is exported to all Australian States and several other countries. Early in 1971 substantial shipments were despatched to Ceylon, Malaysia and New Zealand, and in July of 1971 the first shipment of Tasmanian semen was despatched to Canada. In early December 1971, the Board contracted to supply 30,000 semen doses over a two-year period, to Canadian and U.S. customers. Total value of the contract is \$100,000. The first shipment of Tasmanian semen to the United States was made in March 1972. Because of Tasmania's unique situation of being free from cattle disease, it appears export markets could develop dramatically in the near future.

Artificial Breeding Statistics

The following table gives details of Artificial Breeding Board activities in recent years:

Artificial Breeding: Services and Inseminations
(Source: Artificial Breeding Board)

Year	Cows Served			Total Inseminations	Non-return Rate for Commercial Service (b) (Per Cent)
	Commercial Service	Infertility Service (a)	Total Cows		
1961-62	10,008	9,527	19,535	30,674	61.5
1962-63	10,879	11,422	22,301	34,077	64.7
1963-64	14,427	9,765	24,192	38,029	61.2
1964-65	17,430	6,454	23,884	36,847	62.5
1965-66	27,152	2,010	29,162	46,106	61.4
1966-67	29,034	2,298	31,332	47,148	66.1
1967-68	41,892	197	42,089	60,587	68.3
1968-69	(c) 43,658		43,658	62,551	69.3
1969-70	49,818		49,818	70,350	70.2
1970-71	48,588		48,588	68,917	69.7

(a) Includes cows inseminated in Department of Agriculture's research programme.

(b) Percentage of cows not returning for further service within 90-120 days following first service.

(c) Separate figures not available after 1967-68; infertility service numbers are negligible.

Freeze Branding

In 1969 the Board introduced a freeze branding service. Freeze branding involves immersing a copper brand in dry ice and alcohol or liquid nitrogen, reducing its temperature to -79°C . The brand is then applied to the beast's hide and results in the hair follicle being killed; consequently the hair turns white. In the case of light coloured cows the brand is held on the hide longer, resulting in complete removal of the hair. This is a painless procedure and results in a clear brand which can be read without difficulty at a considerable distance and is of great assistance to breeders in identifying cows for mating programmes. Up to 30 June 1971, 27,108 cows had been freeze branded by Board staff in Tasmania.

Performance Recording

In March 1972 the Board began a beef cattle performance recording service taking over the weighing of cattle and processing of data from the Department of Agriculture.

Farm Machinery on Rural Holdings

A previous table showing male farm workers over a 10 year period indicated a steady fall in the rural labour force. This decline must be associated, in some degree, with the increasing use of machinery on farms. The following table gives details of machinery on rural holdings at 31 March:

Machinery on Rural Holdings at 31 March

Type of Machinery	1961	1967	1968	1969	1970	1971
Cultivating Equipment—						
Rotary Hoes and Rotary Tillers—						
Self Contained Power Unit Type..	(a) 1,073	1,221	1,284	1,292	1,240	1,196
Tractor Mounted or Trailing Type	(b) 576	723	927	962	878	906
Harvesting Equipment—						
Headers, Strippers and Other Harvesters	601	655	726	711	628	700
Mowers, Agricultural—						
Reciprocating (Cutter Bar) Type—						
Power Drive	4,050	5,193	5,134	5,139	5,029	4,942
Ground Drive	1,603	823	664	617	564	512
Rotary Types (incl. Slashers, etc.)..	n.a.	n.a.	1,197	1,392	1,588	1,607
Hay Rakes—						
Side Delivery	1,904	2,438	2,543	2,609	2,604	2,614
Buck	984	988	983	954	926	1,640
Dump	1,312	861	848	796	763	
Forage Harvesters	159	309	317	329	348	349
Pick-up Balers	1,232	1,757	1,903	1,957	2,003	2,019
Potato Diggers	1,053	932	958	923	893	849
Potato Harvesters	n.a.	n.a.	n.a.	70	77	95
Seeding and Planting Equipment—						
Grain Drills (All Types)	3,867	4,011	3,944	3,925	3,861	3,736
Fertiliser Distributors & Broadcasters—						
Rotary	3,151	3,909	4,149	4,177	4,217	4,229
Direct Drop	1,945	1,896	1,911	1,799	1,763	1,654
Potato Planters	206	250	270	281	295	289
Other Equipment—						
Shearing Machines (Number of Stands)	4,052	4,559	4,824	4,862	4,839	n.a.
Milkling Machines (Number of Stands)	11,704	16,414	16,968	17,057	16,941	n.a.
Hammer Mills	261	570	635	644	680	691
Spray Plants, Power Driven	2,217	2,906	2,996	2,958	2,918	2,913
Irrigation Plants, Power Driven	1,089	2,148	2,473	2,479	2,495	2,413

(a) Rotary hoes only.

(b) Tractor mounted type only.

The next table shows tractor numbers during the last 10 year period:

Number of Tractors on Rural Holdings at 31 March

Type of Tractor	1961	1967	1968	1969	1970	1971
Wheeled	8,641	11,042	11,478	11,640	11,764	11,701
Crawler	974	1,129	1,186	1,110	1,192	1,238
Total	9,615	12,171	12,664	12,750	12,956	12,939

Artificial Fertilisers

Until 1967-68 there was a trend to greater use of artificial fertilisers, not only in total, but also in the average application per acre, and this is illustrated in the next table. The need to reduce costs because of falling prices for some farm products, coupled with research results indicating that high quantities were not needed to maintain pasture growth, resulted in reduced quantities

of artificial fertilisers being used. Although the total area of improved pastures has been increasing each year the area fertilised has declined; in 1970-71 only 64 per cent of improved pastures was fertilised compared with 90 per cent four years earlier.

The following table shows the amount of artificial fertiliser used by the type of crop for recent years.

Artificial Fertilisers Used

Particulars	Unit	1960-61	1967-68	1968-69	1969-70	1970-71
Vegetables (a)—						
Area Fertilised	'000 acres	39	28	29	27	21
Fertiliser Used—Total	'000 cwt	135	190	184	174	143
Per Acre	cwt	3.45	6.75	6.43	6.40	6.98
Fruit—						
Area Fertilised	'000 acres	19	20	20	19	18
Fertiliser Used—Total	'000 cwt	111	147	141	146	136
Per Acre	cwt	5.94	7.37	7.14	7.58	7.66
Pastures—						
Area Fertilised	'000 acres	1,080	1,561	1,481	1,473	1,325
Fertiliser Used—Total	'000 cwt	1,702	2,700	2,470	2,404	2,194
Per Acre	cwt	1.58	1.73	1.67	1.63	1.66
Other Crops—						
Area Fertilised	'000 acres	98	196	204	174	161
Fertiliser Used—Total	'000 cwt	192	409	414	349	327
Per Acre	cwt	1.96	2.09	2.03	2.00	2.03
Total Usage—						
Area Fertilised	'000 acres	1,236	1,805	1,733	1,693	1,524
Fertiliser Used	'000 cwt	2,141	3,444	3,209	3,073	2,801

(a) Vegetables for human consumption only (except for 1960-61 data).

Types of Artificial Fertiliser

The basic types of artificial fertiliser employed are phosphatic (e.g. superphosphate), nitrogenous (e.g. sulphate of ammonia) and potassic (e.g. muriate of potash), their essential chemical contribution to plant nutrition being phosphoric oxide (P_2O_5), nitrogen (N) and potassium oxide (K_2O). Superphosphate, either 'straight' or with additives, is most widely used in Tasmania, the additives consisting of trace elements such as cobalt, molybdenum, copper, boron, zinc, etc. In addition to the basic fertiliser types, various combinations are also used. Due to the numerous fertiliser combinations on the market it has not been possible to obtain any detailed analysis of the types applied to various purposes.

Area of Land Irrigated

Comparison

Both N.S.W. and Victoria have almost $1\frac{1}{2}$ million acres of irrigated land. By way of contrast, the Tasmanian total was only 45,728 acres in 1970-71. Owing to the generally more reliable rainfall in Tasmania, scarcity of water is not such a problem as it is in the other Australian States, although quite a number of streams are not permanently flowing and drought conditions in some areas of Tasmania are not unknown.

Farm Storages

Until a few years ago, Tasmanian irrigated areas were negligible except for long-established hop fields. The increasing use of spray irrigation on orchards, pastures, potato and other vegetable crops resulted in the total area irrigated rising to a peak of 66,243 acres in 1967-68. However,

figures for the three subsequent years indicate a general decline in the recent use of irrigation, with only 45,728 acres being recorded for 1970-71. This trend could be a reflection of difficult economic conditions being experienced in the rural sector. Until recently, there was an almost complete dependence on natural stream flows but the need for some regulating storages has become apparent. Farmers have been constructing storages for their own use and the extension of this practice is seen as the logical solution in most areas because there are not many locations from which single large reservoirs can economically serve areas of suitable land.

Cressy-Longford Irrigation Scheme

The first stage of the Cressy-Longford Irrigation Scheme, which involves diversion of water from the Poatina tailrace has been tested. The main, west and east channels were completed by mid-1972; work on the north channel commenced in late 1972. Water from the west and east channels was available for irrigation by spring 1972.

The scheme, when completed, will have 60 miles of earthen channels and provide irrigation water for approximately 20,000 acres. An augmented flow of water to two downstream rivers will also occur; this will increase available irrigation water to downstream farmers. Under maximum development at least 6,000 acre feet of water per annum will be available to farmers connected to the scheme both inside and outside the irrigation district.

Estimated cost of the scheme is \$1.06m of which the Commonwealth's share is \$750,000.

Area Irrigated

A total of 1,522 farms reported the use of irrigation in 1970-71 compared with 1,988 in the previous year. In 1970-71 the area of crops irrigated exceeded 3,000 acres in four municipalities. The municipalities were: (i) Hamilton, 5,845 acres (pasture, 5,320 acres, green feed, 290 acres, hops, 83 acres and other crops, 152 acres); (ii) New Norfolk, 3,290 acres (pasture, 1,871 acres, hops, 893 acres, fruit, 288 acres, vegetables, 142 acres and other crops, 96 acres); (iii) Latrobe, 3,196 acres (other vegetables, 1,097 acres, potatoes, 780 acres, pasture, 780 acres, green feed, 304 acres and other crops, 236 acres); and (iv) Ulverstone, 3,064 acres (potatoes, 1,299 acres, other vegetables, 927 acres, pasture, 539 acres, green feed, 169 acres and other crops, 130 acres). A further three municipalities had irrigated areas in excess of 2,000 acres. Details of the area of crops and pastures irrigated in Tasmania are shown in the following table:

Area of Crops and Pasture Irrigated
(Acres)

Year	Crop					Pasture	Total
	Hops	Green Feed	Fruit	Potatoes	Other		
1961-62 ..	1,447	1,589	3,930	1,374	3,136	11,713	23,189
1962-63 ..	1,465	2,043	4,446	1,688	3,208	11,435	24,285
1963-64 ..	1,463	2,703	5,933	1,984	5,794	15,693	33,570
1964-65 ..	1,553	2,583	5,955	2,246	7,791	14,194	34,322
1965-66 ..	1,524	3,948	7,241	4,216	10,616	17,651	45,196
1966-67 ..	1,495	5,433	8,287	4,100	9,799	18,111	47,225
1967-68 ..	1,587	6,273	9,042	5,887	14,275	29,182	66,243
1968-69 ..	1,550	3,784	8,157	6,316	13,282	23,167	56,252
1969-70 ..	1,440	5,103	7,663	5,418	14,878	25,429	59,929
1970-71 ..	1,246	3,543	4,977	4,715	8,657	22,590	45,728

Irrigation Methods and Sources of Water

In 1967-68, for the first time, statistics of irrigation methods and source of water used for irrigation were collected. The main method of irrigation is by 'spray' which accounted for 72 per cent of the total area irrigated in 1970-71. The following table gives details of the areas of crops, etc. irrigated and the methods of irrigation used:

**Method of Irrigation, 1970-71
(Acres)**

Crop or Pasture Irrigated	Method				Total
	Spray	Channel or Furrow	Flooding	Multiple Methods	
Crop—					
Potatoes	r 4,698	16	..	r 1	r 4,715
Other Vegetables	6,182	8	56	47	6,293
Fruit	4,290	107	248	332	4,977
Green Feed	2,751	56	657	80	3,543
Hops	480	619	140	8	1,246
Other	2,247	30	65	23	2,365
Pasture	12,197	1,482	7,478	1,433	22,590
Total	r 32,844	2,317	8,644	1,923	r 45,728

Potatoes respond particularly well to irrigation—yields from irrigated crops frequently exceed 10 tons per acre. For the 1970-71 season the State average potato yield from irrigated areas was 10.36 tons per acre while for non-irrigated potato crops the yield was only 5.28 tons per acre. The next table highlights the importance of irrigation in the potato growing industry:

Potatoes Irrigated

Particulars	1960-61	1968-69	1969-70	1970-71
Total Area of Potatoes Planted .. acres	11,129	11,461	9,367	8,994
Area Irrigated—				
Total acres	1,374	6,316	5,418	r 4,715
As Proportion of Area Planted .. per cent	12.3	55.1	57.8	r 52.4

The next table shows areas irrigated from each source of water:

Source of Water for Irrigation, 1970-71

Source of Water	Area Irrigated (Acres)		Number of Holdings Reporting Each Source of Water	
	1969-70	1970-71	1969-70	1970-71
Surface Water from—				
Communal Irrigation Schemes	1,526	r 1,559	14	r 12
Rivers, Creeks, etc.	27,475	r 21,057	763	r 553
Farm Dams, etc.	30,185	r 22,359	1,244	942
Underground Water Supply (Bore, Well, etc.)	238	341	32	27
Municipal Water Supply	506	r 412	96	81
Total	59,929	r 45,728	(a) 1,988	(a) 1,522

(a) This is the total number of holdings reporting the use of irrigation and not the total number of holdings reporting each source of water since one holding may report a number of different sources.

TASMANIAN DEPARTMENT OF AGRICULTURE

Aims and Structure

The Department of Agriculture (originally the Agricultural Bureau of Tasmania) was created in the late 1880s with very narrow aims, principally to administer plant and animal regulations and advise the Government on all phases of agriculture. In 1927, however, the State Government decided to reorganise the Department, a new aim having been suggested by the Commonwealth Development and Migration Commission which most strongly urged the spread of scientific knowledge among primary producers.

The functions of the modern Department are: (i) active research and investigation into agricultural problems; (ii) wide dissemination of technical information and other advice to farmers; and (iii) regulatory and administrative action as required under various State Acts.

To carry out the functions associated with agriculture, the Department, headed by the Director, is divided into five *divisions* (agronomy, horticultural, dairy, plant pathology and entomology), three *services* (extension, animal health and administrative) and four *sections* (wool, piggery, poultry and economics). The Department has its own laboratories, research stations and experimental farms. In addition, the Director administers the Sea Fisheries Division.

Research and Investigations

Introduction

The fundamental work undertaken in the State's research farms and laboratories is aimed at increased productivity through improvements in plant and animal performance.

At present, there are three research centres and one laboratory associated with agronomical research, two research centres and a laboratory involved in horticultural research, one bacteriological laboratory devoted to dairy research and bacterial investigations, and laboratories which deal with entomological and plant pathological investigations. Livestock studies are conducted on two of the centres associated with agronomical research and laboratory facilities are provided at Mt Pleasant (Launceston).

ECONOMIC ASPECTS OF THE TASMANIAN APPLE INDUSTRY

The following article was contributed by Mr G. C. Edwards, B.Ag.Ec. (Hons), D.D.A., Agricultural Economist.

Introduction

Note on Quantities: In this article two sources of data are used for export and production figures: (i) Bureau figures; (ii) Australian Apple and Pear Board figures. The following explains the reasons for differences between totals given for overseas exports and State production figures:

- (i) *Overseas Exports:* Four different figures are given for overseas Tasmanian apple exports. The reasons are: (i) the bushel unit used by the Australian Apple and Pear Board differs slightly from that used by the Bureau; (ii) there are two time bases, financial year and 'season' year.
- (ii) *Production:* Two figures are given for production: (i) Apple and Pear Board figures are for a financial year while Bureau figures are for a 'season' year; (ii) the bushel unit used by the Apple and Pear Board differs slightly from that used by the Bureau.

For nearly a century apple production has played an important role in the Tasmanian economy. Tourist literature frequently promotes Tasmania as 'The Apple Isle' and apple growing in Tasmania has had an interesting and eventful history. The first apple trees were planted even before settlement of Van Diemen's Land took place. On 21 August 1788 (the year of establishment of the Colony of New South Wales) William Bligh in command of the *Bounty* anchored in Adventure Bay, Bruny Island. Several kinds of fruit and vegetables were planted including three apple trees.

Orchards were established along the banks of the Derwent and Tamar Rivers soon after settlement in 1804 but the first stimulus to apples was brought about by the opening up of the Huon Valley in the 1840s. By 1851 there were 3,127 acres of apple orchards producing over 300,000 bushels of fruit. Fresh apples were shipped to other Australian Colonies while processed apples were exported overseas.

Tasmania was the first Australian colony to export apples to England. In 1884 100 cases were shipped under ordinary conditions in the *S.S. Warwick*. The possibility of an overseas export trade provided the second stimulus to apple planting. With the subsequent provision of refrigerated ships, an industry based on overseas and interstate markets was established. Currently, Tasmania is the leading State for the production and export of apples. Reference to the next table shows the heavy dependence by the Tasmanian apple industry on export markets. Whereas the aggregate Australian apple industry exports less than one third of total production, Tasmania has to rely on overseas markets to dispose of nearly two thirds of the crop. The only other State depending on overseas markets to anywhere near this extent is Western Australia.

Australian Apple Production and Overseas Exports, 1970-71

(Source: Australian Apple and Pear Board)

State	Production	Overseas Exports	Overseas Exports as a Proportion of Production	Proportion of Total Australian Exports
	'000 bush	'000 bush	per cent	per cent
New South Wales	6,360	138	2.2	1.8
Victoria	4,113	644	15.7	8.4
Queensland	2,250	199	8.8	2.6
South Australia	1,775	192	10.8	2.5
Western Australia	3,177	1,830	57.6	23.8
Tasmania	7,450	4,681	62.8	60.9
Australia	25,125	7,683	30.6	100.0

Apple production in Tasmania is concentrated in the Huon Valley, D'Entrecasteaux Channel district, Tasman Peninsula and Derwent Valley in the South, the Tamar Valley and Lilydale district in the North and Mersey Valley in the North-West. In 1972 the South produced approximately 82.9 per cent of the Tasmanian crop with 79 per cent of the number of growers.

An indication of the importance of the industry to the economy of the State is provided by the following two tables. Over the past decade the Tasmanian apple industry has provided between 12 and 18 per cent of the gross value of rural production. In 1961-62 the value of overseas fresh apple exports reached nearly a quarter of the total value of overseas exports but this proportion has declined considerably in recent years. The value of overseas apple exports has remained relatively stable whereas the total value of export earnings has been boosted by mineral exports.

Gross Value of Production: Apples and Total Rural Industries

(Source: Bureau of Census and Statistics)

Year	Gross Value of Apples	Total Gross Value of Rural Industries	Gross Value of Apples as a Proportion of Total Gross Value of Rural Industries
	\$'000	\$'000	per cent
1960-61	10,830	76,900	14.1
1966-67	14,947	114,367	13.1
1967-68	16,659	110,258	15.1
1968-69	14,455	117,425	12.3
1969-70	15,532	114,822	13.5
1970-71	14,489	110,193	13.2

The next table compares the value of overseas exports of fresh apples with the total value of Tasmanian overseas exports:

Overseas Exports of Fresh Apples (a)
(Source: Bureau of Census and Statistics)

Year	Overseas Exports of Fresh Apples		Total Value of Overseas Exports	Value of Overseas Exports of Fresh Apples as a Proportion of Total Value of Overseas Exports
	Quantity	Value		
	'000 bush	\$'000	\$'000	per cent
1960-61	3,917	8,982	42,588	21.0
1966-67	4,426	10,455	88,834	11.8
1967-68	5,189	12,656	76,888	16.5
1968-69	4,329	11,369	102,061	11.1
1969-70	5,210	13,548	143,470	9.4
1970-71	4,552	12,117	143,198	8.5

(a) Trade figures for financial years.

Employment

While it is difficult to be precise about employment in the industry, there is a substantial permanent labour force estimated in 1970-71 to be about 1,500 persons (including owners working on their own holdings). There is also a high seasonal level of employment more than 2,000 temporary workers being employed, mainly on picking and packing, at the peak of the harvest. One of the difficulties in estimating employment arises from the fact that while many growers specialise in apples, quite a large number is also involved in other forms of rural activity, some producing apples only as a sideline. In 1970-71 there were 1,007 rural holdings with one acre or more of orchards (all types of fruit) in the State. Almost all of these produce some apples but many would not be regarded as commercial producers. There has been a marked tendency in the past decade for orcharding to become concentrated on fewer and larger holdings. (A fall of nearly 500 in the number of holdings with one acre or more of orchard (all types) was recorded during this period.) This, combined with technical change, has resulted in a steadily declining labour requirement.

In addition to direct employment on rural holdings the industry has wide-spread inter-industry linkages which result in a wide impact upon the State's economy. Manufacturers of containers, distributors of machinery and agricultural chemicals, road transport operators, water-side workers, fruit inspectors and exporters have a heavy dependence on the industry. Apple processing establishments producing such commodities as cider, apple juice, canned and dried apples also engage a substantial workforce.

Technical Change

Over the past two decades production techniques have undergone tremendous change. The typical orchard of 20 years ago depended entirely on natural rainfall, was cultivated down and across the rows to control orchard weed growth, sprayed with hand rods, hand thinned, severely pruned to an open vase shape, the fruit picked into bushel cases and after grading individually wrapped and packed into wooden boxes.

Currently, irrigation is widely used to supplement rainfall. Insecticides and fungicides are applied with drive-past air-blast or boom-type spray machines; thinning of the crop can be achieved with chemicals. Plant growth between the trees is largely controlled with herbicides; many orchards are permanently grassed down. The traditional vase shaped tree is being replaced by more liberal pruning systems such as the central leader. At harvest, picking bags are emptied into bulk bins. During the 1960's the wooden case was replaced by the cell pack fibre board

carton as the principal export container. This required a large increase in the number of cool stores as apples packed in cartons require cooling before stowing on board ships. The pre-cooling of fruit also brought about considerable improvement in fruit quality at destination.

During this period of rapid technological change orchard productivity nearly doubled as the State average production per acre moved from 266 to 522 bushels per acre, the highest in the Commonwealth. Nevertheless, the industry is faced with serious economic pressures which will make necessary further radical changes in the style of production and presentation of apples and will bring about changes in the structure of the industry and its pattern of exports.

Crop Disposal

The most significant change in market outlets has been the almost total loss of interstate trade since World War II. (In the 1938-39 season 58.4 per cent of the crop was exported overseas while 34 per cent went to interstate markets.) Pre-war the Sydney, Newcastle and Brisbane markets absorbed between 1.5 and 2 million bushels per annum of Tasmanian apples. For the 1970-71 season the proportion of apples sold interstate fell to less than one per cent of the crop. This loss may be attributed to increased apple production in other States and rising interstate freight charges. Details of the disposal of the Tasmanian crop for the years 1965-66 to 1970-71 are given in the next two tables. It is disturbing to note that no market outlet could be found for approximately 10 per cent of harvested crops in 1971. Factory usage has been increasing slowly but the prospects for a marked increase in disposal through the processing sector are not bright. Factory fruit is considered a by-product to the production of fresh apples for export. Prices paid during the 1972 season for factory apples were (per 50 pound bushel): canning (grade A), \$0.70; canning (grade B), \$0.55; juice, \$0.45. (For an approximate comparison with production costs see a later section 'Costs and Structure of the Apple Industry'.)

Disposal of Apple Crop: Quantities
(Source: Bureau of Census and Statistics)

Method of Disposal	Season					
	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Exported—						
Overseas—Quantity .. '000 bush	6,205	4,364	5,411	4,668	4,639	4,615
Proportion of Total Crop per cent	74.2	69.3	68.1	65.4	62.7	62.6
Interstate—Quantity .. '000 bush	217	126	626	169	301	62
Proportion of Total Crop .. per cent	2.6	2.0	7.9	2.4	4.1	0.8
Used in Tasmania—						
Factories—						
Canning and Other Purposes—						
Quantity .. '000 bush	877	658	1,013	1,042	929	730
Proportion of Total Crop per cent	10.5	10.4	12.8	14.6	12.6	9.9
Juice—Quantity .. '000 bush	602	370	435	918	776	793
Proportion of Total Crop per cent	7.2	5.9	5.5	12.9	10.5	10.8
Local Market—Quantity '000 bush	320	456	336	309	518	400
Proportion of Total Crop .. per cent	3.8	7.2	4.2	4.3	7.0	5.4
Harvested but not Disposed—						
Quantity .. '000 bush	143	327	122	32	237	773
Proportion of Total Crop .. per cent	1.7	5.2	1.5	0.4	3.2	10.5
Total Crop—Quantity '000 bush	8,364	6,301	7,943	7,138	7,400	7,373

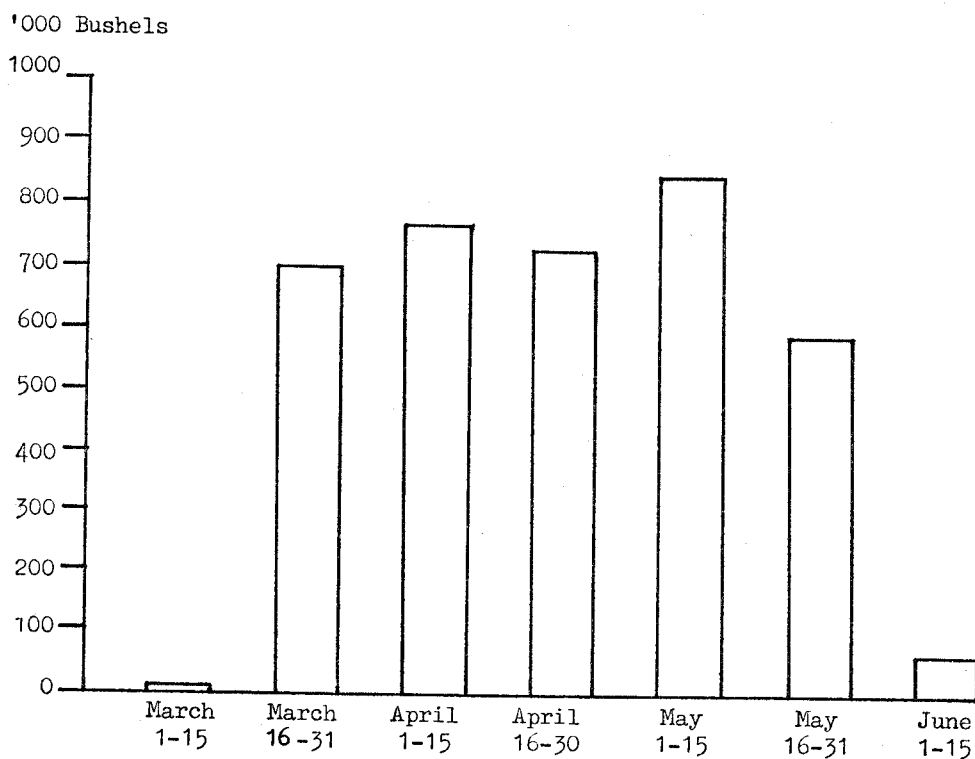
In the 1970-71 season the total value of the apple crop was \$14,489,000 comprising: overseas exports, \$13,389,000 (91.9 per cent of the total value); apples used in factories, \$668,000 (4.6 per cent); local market, \$388,000 (2.7 per cent); interstate exports, \$124,000 (0.9 per cent).

Export Markets

The Tasmanian apple industry evolved around an export trade directed at Europe, principally the United Kingdom. Although Britain and other European countries have large apple industries, Australian apples along with other Southern Hemisphere suppliers (South Africa, New Zealand, Argentina and Chile) fill an off-season gap during the northern spring and summer. The export season for Tasmanian apples begins in March and ends in early June with a delivery peak to the wharf in mid-May (see diagram 1). The bulk of fruit arrives at the northern markets during May, June and July.

(1)

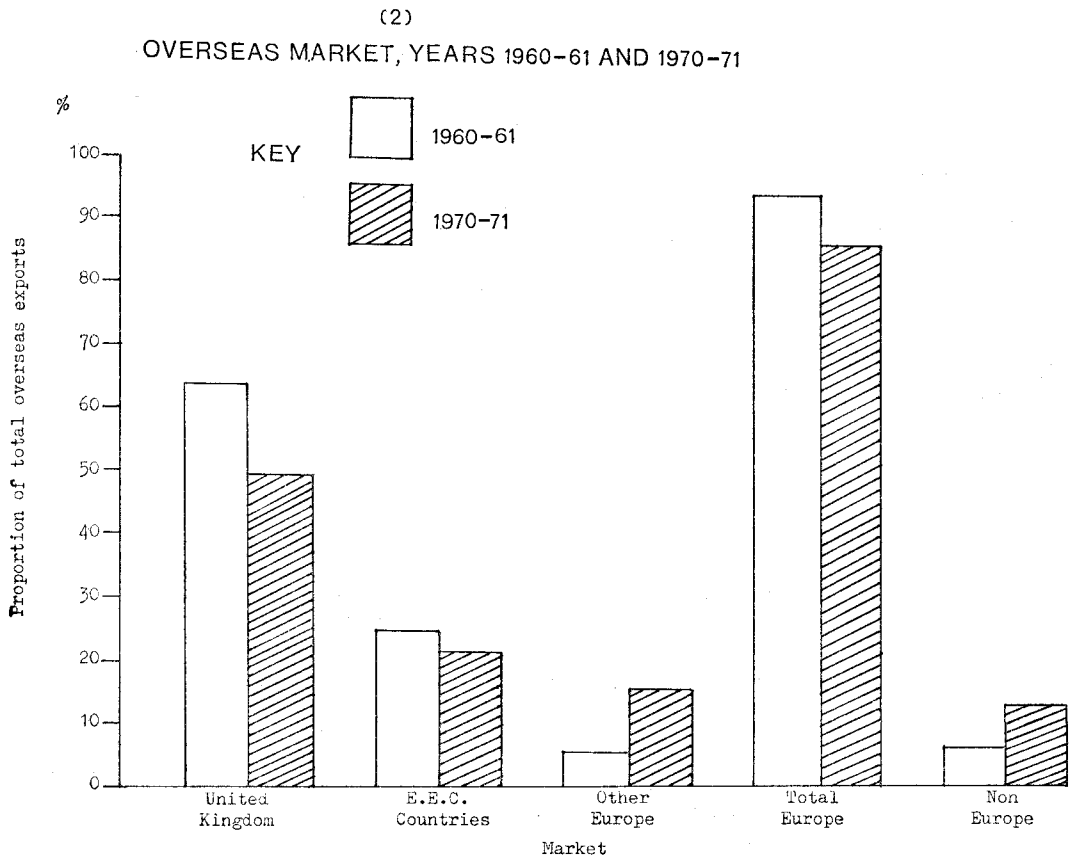
APPLE DELIVERIES AT HOBART AND PORT HUON WHARVES SEASON 1971



Apples from Australia, New Zealand and South Africa are allowed unrestricted duty free entry to the U.K. market whereas other Southern Hemisphere suppliers are subject to quantitative restrictions plus a £Eo.225 per cwt duty. The European Economic Community from 1 April to 31 July applies a common external tariff of eight per cent on all 'third party country' supplies of apples. Currently on the British market strongest competition emanates from South Africa and New Zealand while South American countries provide the strongest competition for E.E.C. sales.

British entry to an enlarged E.E.C. will end Commonwealth preference and Tasmanian fruit entering Britain will be subject to an eight per cent tariff phased in over a five-year period. In addition, apple imports from non-E.E.C. suppliers may be subject to quantitative restrictions if a position of over-supply should arise within the enlarged E.E.C. Free access to the protected British market will probably encourage apple producers in France and Italy to increase investment in improved cool storage equipment, such as controlled atmosphere. With this type of storage facility the present 'in-season' surplus could be held-over and marketed in good condition during the British 'off-season' in competition with Tasmanian apples.

It is evident that the export of apples to Britain will become increasingly difficult and in order to diversify markets greater attention is being paid to countries outside Europe. Although, during the past decade the proportion of exports directed to non-European countries has more than doubled, as is shown in Diagram 2, they still account for only 12.2 per cent of Tasmanian exports. Details of shipments to overseas markets by varieties for the 1971 season are presented in the next table.



Because of quarantine regulations, Tasmanian apples are excluded from the potentially large Japanese market. (Codling moth is an endemic pest to Tasmania.) Of particular importance was the establishment of export outlets in Canada and U.S.A. However, the Canadian market has proved short-lived; as from 1972 Tasmanian apples were excluded because of the existence in Tasmania of the light brown apple moth.

Overseas Exports of Apples 1971 Season: Varieties By Market
(Source: Australian Apple and Pear Board)
('000 Bush)

EUROPEAN MARKET

Variety	Country						
	United Kingdom	West Germany	Sweden	Netherlands	Denmark	Other	Total
Granny Smith	342	208	85	62	33	39	769
Democrat	284	245	123	111	34	87	884
Jonathan	592	93	29	..	7	8	729
Sturmer Pippin	482	110	..	33	8	2	635
Cleopatra	37	90	155	1	79	..	362
Delicious .. .. .	..	..	..	..	..	..	..
Golden Delicious	178	45	3	7	..	..	233
Crofton	212	9	..	..	..	1	221
Other	163	29	56	..	19	2	273
Total	2,291	830	452	216	179	139	4,107

ALL MARKETS

Variety	Total All European Countries	Asian Countries			East African Countries	Canada and U.S.A. (b)	Total All Markets
		Singapore	Hong Kong	Other (a)			
Granny Smith	769	27	3	8	..	51	859
Democrat	884	99	1	74	7	9	(c) 1,093
Jonathan	729	..	..	..	1	..	(c) 741
Sturmer Pippin	635	..	..	..	..	..	635
Cleopatra	362	..	..	..	2	..	364
Delicious .. .. .	..	131	162	21	1	1	317
Golden Delicious	233	..	..	..	..	..	234
Crofton	221	..	..	..	..	..	221
Other (d)	273	41	26	9	..	6	353
Total	4,107	297	192	112	13	69	(e) 4,820

(a) Comprises Malaysia (69,000 bushels) and Indonesia (43,000 bushels).

(b) U.S.A. 45,000 bushels; Canada, 23,000 bushels.

(c) See note (e).

(d) Includes 20,000 bushels of Red Delicious apples exported only to Asian countries.

(e) Includes 31,000 bushels (19,000 bushels of Democrats and 12,000 bushels of Jonathans) exported to unspecified countries.

From the preceding table it can be seen that the Asian market has a preference for a sweet apple. All Tasmanian exports of Delicious apples were directed at non-European countries; Red Delicious in particular bring premium prices in South-East Asia. No export sales of the tart Sturmer apples, one of the main varieties in Tasmania, take place outside Europe.

Costs and Structure of the Apple Industry

Currently the industry has approximately 750 commercial growers and about 14,000 acres of bearing orchard with an average production of 522 bushels per acre. A number of producers have been able to achieve yields in excess of 1,000 bushels per acre but at the other end of the scale production at around 200 bushels per acre is not uncommon. A study of production costs made by D. M. Hunt (1971) showed that with yields below 400 bushels per acre production costs per bushel rise rapidly whereas at high yields per acre the unit cost declines gradually. The results of the study presented here apply only to the production levels indicated and are not necessarily representative of the costs of production of the industry as a whole.

Production Costs (a)
(Cents Per Bushel)

Item	Yield Per Acre		
	400 Bushels	500 Bushels	600 Bushels
Spray Materials	23.7	19.0	15.8
Fertilisers	10.0	8.0	6.7
Labour (b)	43.9	35.1	29.3
Overheads and Operating Costs (c)	13.0	11.0	9.9
Total	90.6	73.1	61.7

(a) Based on a 1971 cost study by D. M. Hunt.

(b) Labour includes an allowance for owner's/operator's own efforts.

(c) Comprises rates and acreage taxes, fuel, insurance, telephone, electricity charges, accountancy, incidental freight, travelling, repairs and maintenance and other miscellaneous costs.

The above figures represent the cost of producing apples on the tree. Following through with the 500 bushel production level (which is close to the State average) the total cost for one bushel of apples loaded free on board ship and then distributed for sale in the United Kingdom is given in the next table:

Costs Per Bushel of Apples (a), 1971: Loaded Free on Board Ship and Distributed for Sale in the United Kingdom (b)
(\$)

Loaded Free on Board Ship	Amount	Distributed for Sale in United Kingdom	Amount
Cost—		Cost—	
Production	0.73	Free on Board Ship (d) ..	2.68
Harvesting	0.20	Overseas Freight	2.23
Presentation (c)	1.45	Distribution in United Kingdom	0.90
Interest and Depreciation ..	0.30		
Total	2.68	Total All Costs ..	5.81

(a) Based on yield of 500 bushels per acre.

(b) Based on a 1971 cost study by D. M. Hunt.

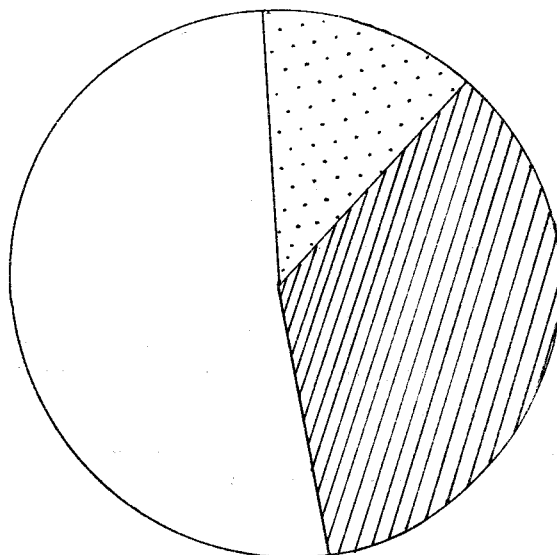
(c) Includes cost of cell pack carton (\$0.70 to \$0.88), packing, shed labour, transport from orchard to wharf, cool storage and Tasmanian Fruit and Shipping Agents' commissions.

(d) Brought forward from previous column.

The proportional breakdown of costs is presented in Diagram 3. In order to cover costs a grower with near average level of production requires at least \$5.81 per bushel carton on the U.K. market. (Estimates for the 1972 season indicate that this figure rose to approximately \$6.43.) Frequently prices received have been below this level, particularly for certain varieties. This situation is most likely to occur during May when competition with South Africa is strongest and also when the arrival of several fruit ships coincide.

Indications are that the trend of rising shipping charges will continue thus adding to the difficulties, already mentioned, of marketing Tasmanian apples in Europe. The freight cost problem also provides a further incentive to develop markets closer to home where the freight burden will not be so high.

(3)
COST COMPONENTS: APPLE EXPORTS TO
EUROPEAN MARKETS (a)



KEY



Production costs

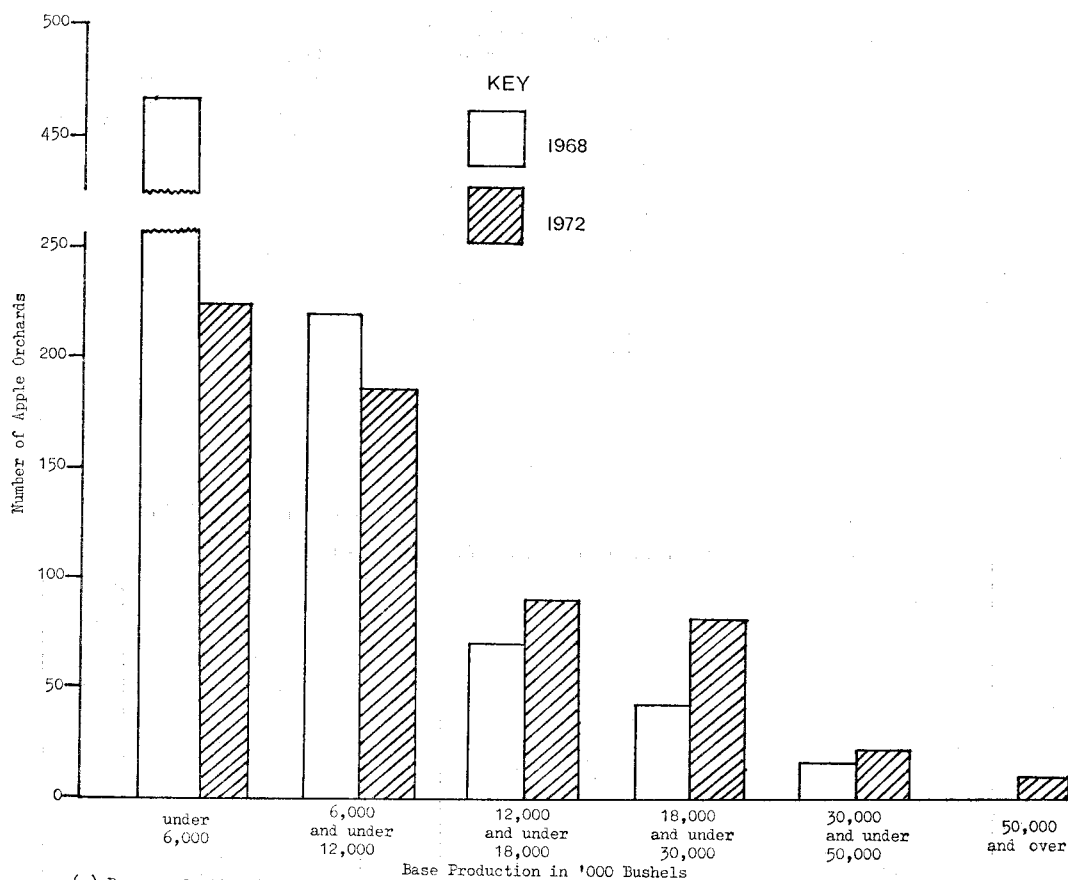
Harvesting, packaging,
cool storage and local
transportOverseas freight and
distribution costs

(a) Based on a 1971 production cost study by D.M. Hunt.

Low prices in recent years have forced many growers out of the industry. Diagram 4 reveals that in 1968 there were 815 growers in Southern Tasmania and by 1972 this number had dwindled to 610. This has been brought about by a drastic reduction in the number of small size orchards (i.e. those with production of less than 12,000 bushels). By contrast the number of growers with large orchards has increased.

Part of this structural change can be attributed to large growers buying up small orchards and the grubbing-out of apple trees on mixed farming properties. Other factors have been the adoption of improved orcharding practices which have lifted production per acre and the planting of high yielding, high tree density apple orchard blocks.

(4)
 SIZE AND DISTRIBUTION OF APPLE ORCHARDS
 BY BASE PRODUCTION (a): SOUTHERN TASMANIA (b)



(a) Base production is average of preceding four season's total production.
 (b) Source : Tasmanian Fruit Shipping Agents' Committee.

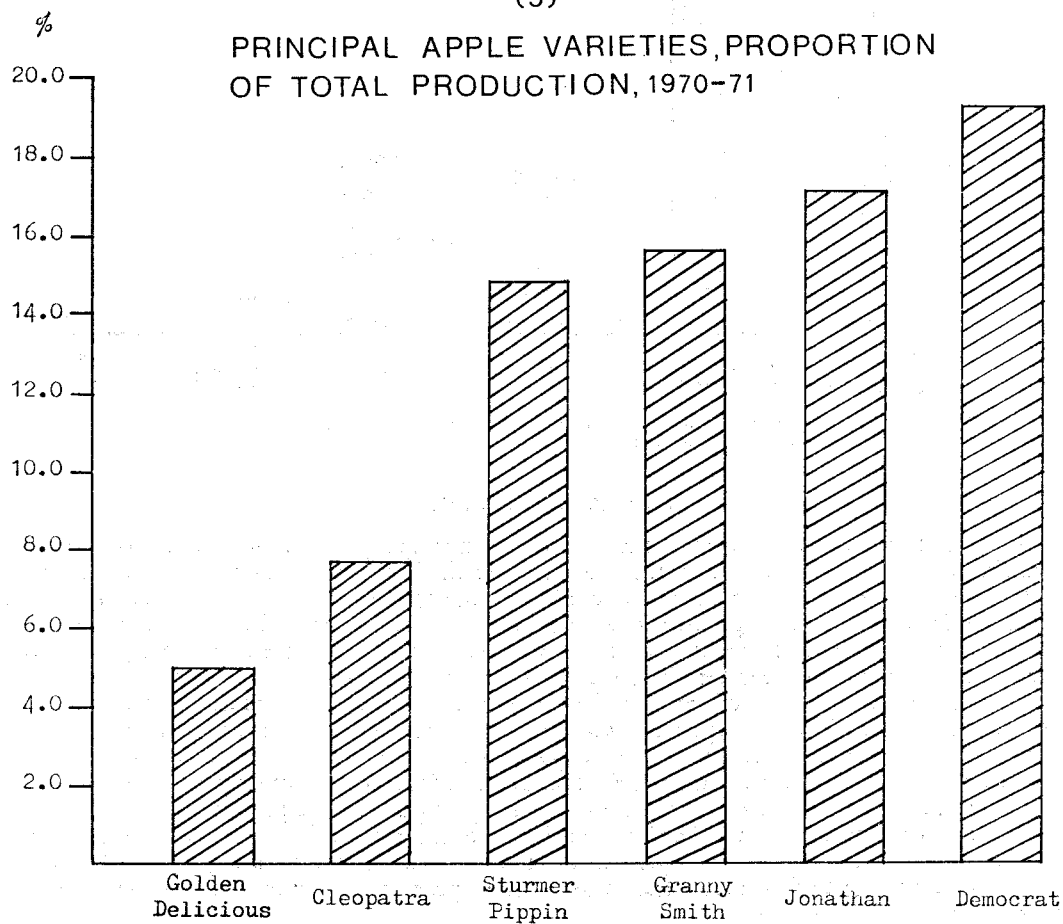
Stabilization Scheme

In order to minimise the degree of risk involved in shipping fruit to distant markets under increasingly speculative conditions the Commonwealth Government introduced the *Apple and Pear Stabilization Act* which became operative for the 1971 export season. All fruit shipped at risk (i.e. fruit on open consignment, sales afloat or on consignment against advance payment) is covered by the scheme. Support of up to 80 cents per bushel is payable if the average market return does not attain the predetermined varietal support price. Support at the 80 cents level is limited to 4.4 million bushels of apples and pears exported at risk. For quantities beyond this figure the maximum level of support is proportionally reduced. For instance, approximately 7.5 million bushels of apples and pears were exported from Australia during the 1971 season and the maximum level of contribution from the Stabilization Fund was 47 cents per bushel. Where the average export return for a variety exceeds the support price then a proportion of the excess is levied as a contribution to the Stabilization Fund. Some details, for certain varieties, of the support and realized prices which operated for the 1971 export season are given in the next table. Comparison with Diagram 5 shows that a high proportion of production is directed at varieties which earn a low price.

Support and Realised Prices for Some Varieties of Australian Apples, 1971 Season
(Source: Department of Agriculture)

Variety	Support Price Per Bushel	Average Realised Price Per Bushel	Stabilization Fund Transactions	
			Paid Out Per Bushel	Paid In Per Bushel
	\$	\$	\$	\$
Granny Smith	3.33	2.69	0.47	..
Red Delicious	3.30	3.50	..	0.05
Golden Delicious	2.90	2.57	0.33	..
Delicious	2.68	3.13	..	0.18
Crofton	2.90	2.51	0.39	..
Cox. Orange Pippin	2.84	3.44	..	0.29
Democrat	2.70	2.02	0.47	..
Legana	2.75	2.65	0.10	..
Cleopatra	2.75	2.31	0.44	..
Sturmer Pippin	2.55	2.13	0.42	..
Jonathan	2.50	2.12	0.38	..

(5)



Future Trends

Major changes in the apple industry appear necessary in three broad categories: (i) orchard production; (ii) packaging (i.e. method of presentation); and (iii) marketing.

Orchard Production

It is now clear that only orchards with a high level of production per acre have a chance of remaining viable. There are many orchards too small in size, with obsolete trees, unsuitable tree spacings and low priced varieties that may be unable to withstand current economic pressures. The present rate of decline in the number of orchard properties could probably accelerate.

Trials at the Huon Research Station, Grove, have demonstrated that very high yields per acre can be attained by high density orchard plantings on clonal rootstocks. Yields near 2,000 bushels per acre have been reached by 10 year old trees planted 504 to the acre. In recent years nearly all new commercial plantings have been at high densities.

Packaging

Substantial cost reductions are possible by exporting fruit, unwrapped, in large wooden containers of up to 25 bushel capacity. The cost of the container per unit of fruit is cheaper in some instances by as much as half the cost of a cell pack carton. Both shipping freight and distribution costs at destination are also substantially less.

Although considerable time and expense are involved in packing fruit in bushel containers in Tasmania, a large proportion of fruit is unpacked and regraded for distribution to supermarkets once it arrives at its overseas destination. Therefore orchard filling of bulk bins has been a logical development. Sorting for skin defects in the orchard is made possible by means of a canvas attachment to the bin. In this way the fruit is handled only once before shipment. The grading machine, a source of bruising, is by-passed. A study of the out-turn of Tasmanian bulk fruit shipment was made by W. F. Walker in 1968. The next table, taken from that study, gives a comparison of costs between orchard filled bulk bins and cell pack cartons:

Comparative Costs of Apple Containers
(Cents)

Item	Cost Per Bushel	
	Orchard Filled Bulk Bin	Cell Pack Carton
Container	40.0	70.0
Packing Shed Labour (Local) .. .. .	..	10.0 to 12.0
Packing and Filling	10.0	8.0 to 10.0
Sundries and Overhead .. .. .	..	10.0 to 18.0
Overseas Freight	179.0	223.0
Landing	6.5	16.0
Cartage and Handling	31.9	31.9
Storage	3.6	10.6
Carton Unit in United Kingdom	6.0 to 30.0	..

In 1968, using orchard filled bulk bins, net savings of \$0.65 to \$1.00 per bushel could be achieved in the cost of shipping and landing apples in British warehouses.

There is a growing acceptance of the bulk bin by the Tasmanian orchardists. In 1967 1,405 such containers were used for apple exports and by 1971 about six per cent of the export crop was shipped in bulk bins. The proportion of fruit shipped by bulk bins in 1972 was expected to be considerably higher.

Marketing

Prior to the 1972 export season apple growers exported their fruit through one or more of the 19 exporters who held an export licence issued by the Minister of Primary Industry on the recommendation of the Australian Apple and Pear Board. For the 1972 export season, the Board recommended that a single export licence be issued for Tasmania. As a result a consortium of licensed exporters, Tasfruit Pty Ltd, was formed to handle the export and marketing of Tasmanian apples and pears destined for the U.K. and other European countries. As in previous years, individual exporters accepted fruit from their clients, but each, as a member of the consortium, operated within the framework of the Tasfruit market plan. The single export licence assisted in more orderly assembly, loading and discharge of the 1972 apple export crop.

For many years both Government and grower organisations have been concerned with problems in shipping and marketing export fruit. Towards the end of 1969 the State Government, at the request of the State Fruit Board, had established a Board of Enquiry whose terms of reference were: 'To examine the present methods and problems of marketing Tasmanian apples and pears, the alternative methods of apple and pear marketing in other countries and suggested alternatives, and to propose, if possible, means whereby the marketing of Tasmanian apples and pears could be improved.' The Board of Enquiry's assessment of operations by the South African Deciduous Fruit Board and the New Zealand Apple and Pear Marketing Board led to the recommendation that a Tasmanian Apple and Pear Authority be established. This authority would have the sole responsibility for the export marketing of apples and pears on behalf of Tasmanian growers. The establishment of a single statutory marketing authority for Tasmania would place heavy financial commitments, at least initially, on the financial resources of the State. Such an undertaking would probably require Commonwealth financial support. In mid-1972, the establishment of a national marketing authority for apples and pears was under consideration by the Australian Agricultural Council.

Reconstruction

As pointed out earlier, economic pressures have already squeezed many small orchards out of business and this trend is likely to continue. The small orchards with low production which still remain in business are suffering sharp losses in equity. Five years ago the orchards would have been valued at about \$450 per acre but currently many have a value of only \$300 per acre. Reconstruction programmes for orchards are difficult to implement. Small orchards can not be easily amalgamated for farm build up purposes because of their spatial separation and in addition, many orchards have obsolete trees and uneconomic varieties. Valuation for orchard land in its next most suitable use (pasture) would only be about \$70 to \$100 per acre. Given such circumstances orchardists, being forced out of apple production by economic pressures, could be in the drastic situation of having written-down assets which are insufficient to cover liabilities. To minimise social and economic hardships brought about by this situation, special provisions may have to be incorporated in current rural reconstruction programmes to cater for conditions peculiar to the orchard industry (e.g. where orchard land is amalgamated to a beef grazing property the apple trees become a redundant asset). Currently grower organisations are pressing for a tree-pull compensation scheme. Such measures could help alleviate the sharp loss of equity which may be incurred by many of the smaller orchardists.

Diagram 4 indicates that a reduction of about 50 per cent in the number of low production orchards would reduce Tasmanian apple production by approximately 20 per cent. Production would decline from about 7.33 million to 5.75 million bushels.

Looking a few years ahead, it is obvious that the apple industry which emerges from the present economic crisis will be considerably changed. It will be based on a much smaller number of orchards but these orchards will have a larger production of fruit from high density, high yielding plantings of preferred varieties. A large proportion of exports will be by means of bulk containers many of them orchard filled. The industry will have a much higher dependence on Asian and other non-European markets.

References: (i) Hunt, D. M., *'Apple and Pear Production'*, Orchard Husbandry Course, 1971. Department of Agriculture Tasmania; (ii) Parliament of Tasmania, *'Marketing of Tasmanian Apples and Pears. Report of Board of Enquiry'*. 1970 No. 88; (iii) Walker, W. F., *'Bulk Fruit Shipments 1968'*. Department of Agriculture Tasmania, October 1968.

THE DIVERSIFICATION OF THE DAIRYING INDUSTRY IN TASMANIA

The following article was contributed by the Department of Agriculture.

Introduction

In its earliest days dairying was carried out on a subsistence level by the rural population. Manufacture of butter and cheese took place on the farm primarily for consumption by the settlers' families and the surplus was exchanged for cash or commodities at the stores or markets in the towns. Gradually the manufacture of dairy products was transferred from farms to factories and the industry we know today was eventually established.

In the post war years, total production of milk in Tasmania increased from 30 million gallons in 1945-46 to a current level of approximately 100 million gallons per annum with a gross value of approximately \$22m (about 20 per cent of the total gross value of rural production). The increase in production has been brought about by an increase, both in the number of cows milked and yield per cow. The average sized herd is now over 50 cows, which 20 years ago would have been considered a large herd, while average annual production over the past decade has risen from 562 gallons to 650 gallons per cow.

During this period the number of persons engaged in the industry has dropped considerably and the number of dairy farms with 15 or more dairy cattle has fallen from 3,800 in 1960 to 2,900 at the present time.

In 1891 the first butter factory was built at Table Cape and some years later a factory was erected at Cooe, closely followed by factories in other areas of the State and by 1900 there were 15 butter factories operating in Tasmania. Until the mid 1960's butter was the only dairy product of any significance manufactured in Tasmania. Dairy farmers with predominantly Jersey herds, separated the milk on the farm and cream was sent to butter factories in cans. The farmers were paid on a butter fat content basis. Skim milk, a by-product of the farm separating process, was used to feed pigs, kept by practically all dairy farmers who sold cream to butter factories.

After 1960, manufacturers began to diversify production to meet increasing overseas demands for cheese, powdered milk, casein and butter oil. To achieve this, a different method of milk collection from the farms was necessary. Factories now used refrigerated stainless steel tankers of up to 3,500 gallon capacity to collect the milk from the farms, thus making the use of dairy cans by farmers obsolete. Dairy farmers are now obliged to install refrigerated stainless steel milk vats for milk storage on the farm. The milk is then collected at any time during the day by the tankers. During the flush of the season, collection may be made at every milking, but as production declines all milk may only be collected every second day or every third milking.

Because dairy farmers supplying milk to factories did not have a supply of skim milk available on the farm, many farmers went out of pigs. As a result, pig production, from being a sideline to dairying, has now become a specialised industry; although the number of pig producers in the State is declining, the size of the piggeries is increasing.

Diversification

Of the 73,000,000 gallons of milk produced in Tasmania in 1961-62, 77 per cent was used in the manufacture of factory butter, two per cent for cheese, with the remaining 21 per cent being used for condensory products and town milk supply. Today, however, of the 100,000,000 gallons produced, only 70 per cent is used for butter, cheese production accounts for 13 per cent and the remaining 17 per cent is used for town milk and cream supply and the manufacture of condensory products.

The main outlet for Tasmanian butter is the United Kingdom. At the present time the world butter market is in short supply and prices are high. However, when the U.K. enters into the enlarged economic community, which is already gearing up to meet the demands of the British market, there is a strong possibility that Australia could lose its market for butter and cheese in the U.K. Consequently, dairy manufacturers, who recognised this problem some years ago, began to look for new markets and to diversify their production.

The Australian Dairy Produce Board which controls the export of all Australian butter and cheese has set up a number of recombining plants in S.E. Asia. These plants are joint commercial ventures with manufacturers of the countries in which they are located and use Australian milk powder and butter oil to produce reconstituted and condensory milk. The Dairy Produce Board has also actively promoted the sale of a wide range of dairy products in Japan, the Philippines and a number of other Asian countries. Tasmania is vitally interested in the development of these new markets as approximately 70 per cent of our total butter production is exported.

Butter

Despite the many changes taking place in the dairying manufacturing sector, butter is still Tasmania's main dairy product. Butter is produced in three grades for export, namely, choice (about 90 per cent of the total), first quality and second quality. There has been little variation of the product over the years as the salt and water content is controlled by legislation. Its presentation, however, on the local market has been improved by more attractive wrappings.

Butter production, including the butter equivalent of butter oil, in Tasmania in 1970-71 was 15,032 tons.

Cheese

Total cheese production in Tasmania 10 years ago was approximately 600 tons, but is expected to reach approximately 6,000 tons during the 1971-72 season. Main production is rindless cheddar with some continental varieties being made. During 1971-72 a Tasmanian factory obtained a contract to supply Japan with 1,000 tons of gouda cheese which will increase to 5,000 tons during the next five years.

Butter Oil (Anhydrous Milk Fat)

The production of anhydrous milk fat commenced at the Deloraine factory of the North West Co-operative Dairy Company in 1962 and during the 1963-64 season 900 tons were produced. Output of this product varies according to the demand on the world market.

The plant, which was imported from Germany at a cost of \$60,000, was the first of this kind in Australia to produce anhydrous milk fat from cream as a continuous process. The bulk of the product is exported to recombining factories in S.E. Asia where it is used, together with skim milk powder and local sugar, for the production of condensed milk for the Asian market.

U.H.T. Milk (Ultra High Temperature)

One of the latest dairy products manufactured in Tasmania is U.H.T. milk. The U.H.T. plant, the first of its kind in Australia was established in Launceston in 1966. The most valuable aspect of U.H.T. milk is its shelf life of three months under unrefrigerated conditions of storage, which means there is a potential market anywhere in the world where fresh milk is not available. However, since the devaluation of the pound sterling, competition from sources outside Australia has made this product less attractive to manufacturers and its production is consequently at a very low level.

Casein and Residual Milk Powders

Research workers and machinery firms in recent years have developed continuous casein manufacturing plants which enable uniform products to be made for different markets and specifications. Tasmania has two continuous casein plants making lactic and sulphuric acid casein. Casein is used in making glue, particularly for plywood and in paper sizing. Total production of casein in Tasmania in 1970-71 was 1,464 tons, while the production of milk powder was 3,369 tons. The milk powder product is both roller dried and spray dried.

Future Prospects

The popularity and increasing consumption of cheese, both in Australia and elsewhere, is such that in the not too distant future it could be the main dairy product manufactured, and Tasmania with its up-to-date manufacturing units is well situated to meet the demands imposed by such changing patterns in the industry.

Chapter 8

PRIMARY INDUSTRY—NON-RURAL

FORESTRY

Introduction

When the first explorers ventured beyond the main coastal areas of mainland Australia, they encountered arid zones and desert nearly devoid of timber. By contrast, in Tasmania dense and continuous forest was the main barrier to early penetration, although the early settlements were sited in open savanna-like country which originated from firing by the Tasmanian natives. No other Australian State has similar widespread conditions favourable for forest growth: a cool temperate climate; and assured annual rainfall varying from 20 to 150 inches, according to locality, and showing relatively small seasonal variation.

In the 170 years since the first settlement, land clearing, timber exploitation and fires have left their mark; the Forestry Commission estimated the total forest area at 30 June 1971 as 7,799,000 acres (i.e. about 46 per cent of the State's total area). By Australian standards, however, a State with 46 per cent of its area under forest is uniquely endowed.

Trees of the Tasmanian Forests

Forest Types

There are two basic types of forest in Tasmania: rain forest and sclerophyll forest, and their respective occurrence may be correlated with intensity of rainfall. The rain forest is principally located in the western half and also in the north-east highlands, the sclerophyll forest predominating elsewhere. In Tasmania the sclerophyll forest can be regarded as eucalypt forest, because of the dominance of eucalypts. The temperate rain forest is characterised by the dominance of *Nothofagus cunninghamii* (myrtle), *Eucryphia lucida* (leatherwood), *Atherosperma moschatum* (sassafras), *Acacia melanoxylon* (blackwood) and other trees which appear with changed soil conditions. The exclusive appearance of myrtle types or of eucalypts is determined by rainfall factors. In areas with annual falls above 60 inches, the myrtle appears but not the eucalypts, while in areas averaging 45 to 60 inches myrtle is found as under-storey cover to eucalypt growth. Since the eucalypts are the most important Tasmanian source of timber it can be said, in general, that the better quality forests grow in regions between the 30-inch and 60-inch isohyets. The most valuable eucalypts in such forests belong to the ash group and include *E. delegatensis* (Alpine Ash), *E. obliqua* (Stringybark), and *E. regnans* (Mountain Ash). In areas with falls of less than 30 inches, the forests have *E. globulus* (Blue Gum), *E. linearis* and *E. pauciflora* (Peppermint), *E. ovata* (Swamp Gum), *E. viminalis* (White Gum) and also *E. obliqua* (Stringybark).

Hardwoods and Softwoods

Tasmanian forests are cut almost exclusively for hardwood, the slow growing indigenous softwoods having been exploited in the past without effective regeneration; they were never very plentiful. The principal species are *Athrotaxis selaginoides* (King Billy Pine), *Dacrydium franklinii* (Huon Pine) and *Phyllocladus aspleniifolius* (Celery-top Pine). The scarcity of indigen-

ous softwoods is being met, in part, by the creation of exotic plantations, the principal tree grown being *Pinus radiata*, but at 30 June 1971 the softwood plantations (60,800 acres) accounted for only 0.8 per cent of the State's total forested area. The following table shows the area of softwood and hardwood plantations established by the Forestry Commission (but excludes privately-owned areas):

Area of Forestry Commission Plantations at 30 June
(Acres)

District	1970 r			1971		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Smithton .. ..	..	23	23	..	23	23
Burnie	4,971	8	4,979	5,277	8	5,285
Devonport	5,850	821	6,671	6,870	821	7,691
Launceston	1,114	2	1,116	1,231	2	1,233
Scottsdale	12,617	4	12,621	13,484	4	13,488
Fingal	13,216	..	13,216	15,304	..	15,304
Dover	213	..	213	213	..	213
Queenstown	221	..	221	829	..	829
Total	38,202	858	39,060	43,208	858	44,066

The Forestry Commission intends to plant 4,600 acres of softwoods during 1972-73. The distribution of plantings by districts is (in acres): Fingal, 1,860; Devonport, 900; Scottsdale, 840; Strahan, 600; Burnie, 300; and Launceston, 100.

Demand for Forestry Products

Timber was always in demand as a fuel and as a building and construction material from the days of the original settlement. The possibility of using eucalypts for paper manufacture was investigated in the nineteenth century by Sir Ferdinand von Mueller, the celebrated botanist, and he concluded that eucalypts provided a bark which was suitable for the manufacture of paper. In actual fact, when paper-making began at Burnie in 1939, the process involved discarding the bark and converting de-barked billets to pulp. In 1941 the only newsprint mill in Australia was established at Boyer on the Derwent; more recently, in 1962, a pulp mill began operations at Port Huon in the south. A further pulp and paper mill commenced production during 1970 at Wesley Vale near Devonport.

Further utilisation of forestry products has been introduced by factories producing plywood, hardboard, particle board, woodchips (for export), etc.

Forest Area

In the next table, which shows details of Tasmania's total forest area, a distinction is made between *exploitable* and *potentially exploitable*. Potentially exploitable forest is too immature to warrant exploitation at present, or forest of higher quality where transport costs to the nearest market are prohibitive in present circumstances.

Obviously the distinction will change from time to time; for example the establishment of the wood pulp industry at Port Huon created a local market near forest areas once classed as only *potentially* exploitable, and created a demand for trees of lower grade than those used in sawmilling. Similarly the development of a woodchipping industry at Triabunna opened areas of forest on the east coast which previously had been sub-economic.

Classification of Forest Area (Gross) at 30 June 1971 (a)
(^{'000 Acres})

Forest Area	Located on—		Total
	Crown Land	Private Land	
Exploitable—Hardwood	3,061	1,415	4,476
Softwood	8	4	12
Total	3,069	1,419	4,488
Potentially Exploitable—Hardwood	1,264	250	1,514
Softwood	35	14	49
Total	1,299	263	1,562
Other Areas Classified as Forest	1,616	133	1,749
Estimated Total Forest Area	5,984	1,816	7,799

(a) Includes 60,800 acres of softwood plantations and 950 acres of hardwood plantations at 30 June 1971.

The previous table includes all forests and plantations, whether easily accessible or not, and also the forested areas in scenic reserves. The next table gives details of that part of the total area which is under reservation ('reservation' in this context means land either used or to be used exclusively for forestry purposes; it includes also the forested areas of scenic reserves):

Forest Area (Gross) Under Reservation at 30 June 1971
(^{'000 Acres})

Particulars	Pulpwood Concessions	Exclusive Forest Permits	Scenic Reserves (a)	Other	Total
State Forests (b)	2,030	56	..	618	2,704
Timber Reserves (c)	165	..	..	69	234
Other Forested Reserves	2,101	103	448	..	2,651
Total	4,295	159	448	687	5,589

(a) Estimated forested component of national parks and scenic reserves.

(b) Land permanently dedicated to timber production.

(c) Land reserved for timber supply, including fuel.

The State Forests are located, in the main, in four distinct regions: (i) far north-west about the axis of the Arthur River; (ii) north-eastern highlands; (iii) north and north-west of the Great Lake; and (iv) from the south coast, north to Lake King William.

Classification of State Forests

The classification by the Forestry Commission, of the State Forests, is a continuous process and a large section still remains unclassified. The position, according to latest figures available, is as follows:

Classification of State Forests at 30 June 1971
(’000 Acres)

Particulars	Area	
Commercial Forest—		
Eucalypt (sawlog quality)	574	
Eucalypt (pulpwood and firewood)	278	
Regrowth (immature forest)	213	
Rain Forest (myrtle, sassafras, etc.)	242	
Cleared Land (deforested areas)	68	
Total Productive Forest		1,374
Protection Forest—		
Scrubland and Plains	362	
Barren and Waste	262	
Total Unproductive Forest		624
Total Classified Forest		1,998
Total Unclassified Forest		707
Total State Forest		(a) 2,704

(a) Includes area as proclaimed at 30 June 1971 (2,549,387 acres plus 154,722 acres, the additional area disclosed by revised mapping).

Forest Utilisation

Introduction

Numerous timber-using industries have been established in Tasmania including sawmills and industrial plants producing newsprint, paper, paper pulp, particle board and woodchips. Establishment of the woodchip industry and the expansion of other timber-using industries has resulted in greatly increased annual timber requirements necessitating careful utilisation of existing forest resources and the development of viable reforestation schemes.

The problem of possible overtaking of existing resources has been met partly by multiple use which, in effect, means the same logs supply the raw material for a number of purposes. Pulpwood is often obtained as a by-product from mill-logging operations while waste from sawmilling is used for the manufacture of woodchips, pulp and hardboard. Thinnings from Forestry Commission *Pinus radiata* plantations, which in the past were often discarded, are used in particle board manufacture.

Regeneration is carried out by the Forestry Commission and by the companies themselves. On Crown land reforestation is mandatory, the work in some areas being done by the companies and in other areas by the Forestry Commission. In most cases, industries utilising privately-owned forest resources have established incentive schemes to ensure adequate reforestation.

In the sections that follow some of the more significant details are given for the State's major timber-using industries, excluding sawmills.

Paper, Hardboard and Particle Board

Associated Pulp and Paper Mills Ltd and subsidiaries manufacture paper and hardboard at Burnie and particle board and paper at Wesley Vale. The company owns 250,000 acres of forested land and holds cutting rights over Crown land for fifteen miles on each side of the Emu Bay railway line from the north coast to the Pieman River.

In 1970 the company completed the first stage of its pulp and paper mill at Wesley Vale at a cost of \$25m. The first paper machine installed has an annual capacity of about 40,000 tons of magazine paper and provision has been made for the installation of three additional machines.

Two small pulping units manufacture eucalypt cold soda semi-chemical pulp and *Pinus radiata* refiner-groundwood. A.P.P.M. Ltd plans to establish a large chemical pulp mill at Wesley Vale by 1978 which will duplicate present production from the Burnie complex.

Newsprint

Australian Newsprint Mills Ltd, situated at Boyer on the Derwent River, is Australia's sole manufacturer of newsprint. Its timber concession follows the general line of the Derwent as far north as Lake King William.

The *Florentine Valley Paper Act* 1966 increased A.N.M.'s concession area from 273,000 acres to 373,000 acres to provide the basis for an expansion programme. The company is required by the Act to supply 10 million super feet of logs to other timber-using industries each year. A third paper machine came into production in January 1969 increasing annual capacity to 165,000 tons of newsprint. Output on this machine was progressively speeded-up and further ancillary equipment introduced to raise annual capacity to approximately 205,000 tons.

Wood Pulp

Australian Paper Manufacturers Ltd manufacture wood pulp at Port Huon on the Huon River. The pulp is shipped in pellet form to the company's paper mills in other States, principally to Botany, N.S.W.

The company's pulpwood concession includes virtually the whole of the D'Entrecasteaux Channel coastline and the south coast as far west as Prion Bay; inland it extends west to the Mt Picton area. Also included in the concession are Bruny Island and the Tasman Peninsula.

Woodchips

Woodchips, manufactured from sawmill waste and other timber previously of limited commercial value, are primarily used for wood pulp production. Three Tasmanian companies, Northern Woodchips Pty Ltd, Tasmanian Pulp and Forest Holdings Ltd and Associated Pulp and Paper Mills Ltd have negotiated woodchip export contracts with Japanese interests.

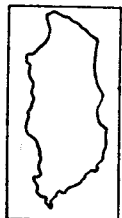
Before granting woodchip export licences, the Commonwealth Government stipulated that the companies, if they did not already have the capacity, should develop wood pulp manufacturing facilities within 15 years.

Tasmanian Pulp and Forest Holdings Ltd's plant at Spring Bay, near Triabunna on the east coast, has an annual capacity of more than 600,000 tons of woodchips. Timber for the project comes from pulpwood concession areas extending along the Eastern Tiers from St Helens (110 miles north of Triabunna) to Buckland (15 miles to the south-west). The Company has also been granted concessions over reserve areas covering much of central Tasmania. These areas will ultimately be used provided Tasmanian Pulp and Forest Holdings Ltd meets various stipulations contained in the *Pulpwood Products Industry (Eastern and Central Tasmania) Act* 1968. In addition the company is permitted to obtain pulpwood from areas in the reserve set aside by the Forestry Commission for silvicultural purposes or by utilising trees removed to open the forest for economic extraction of milling-quality timber.

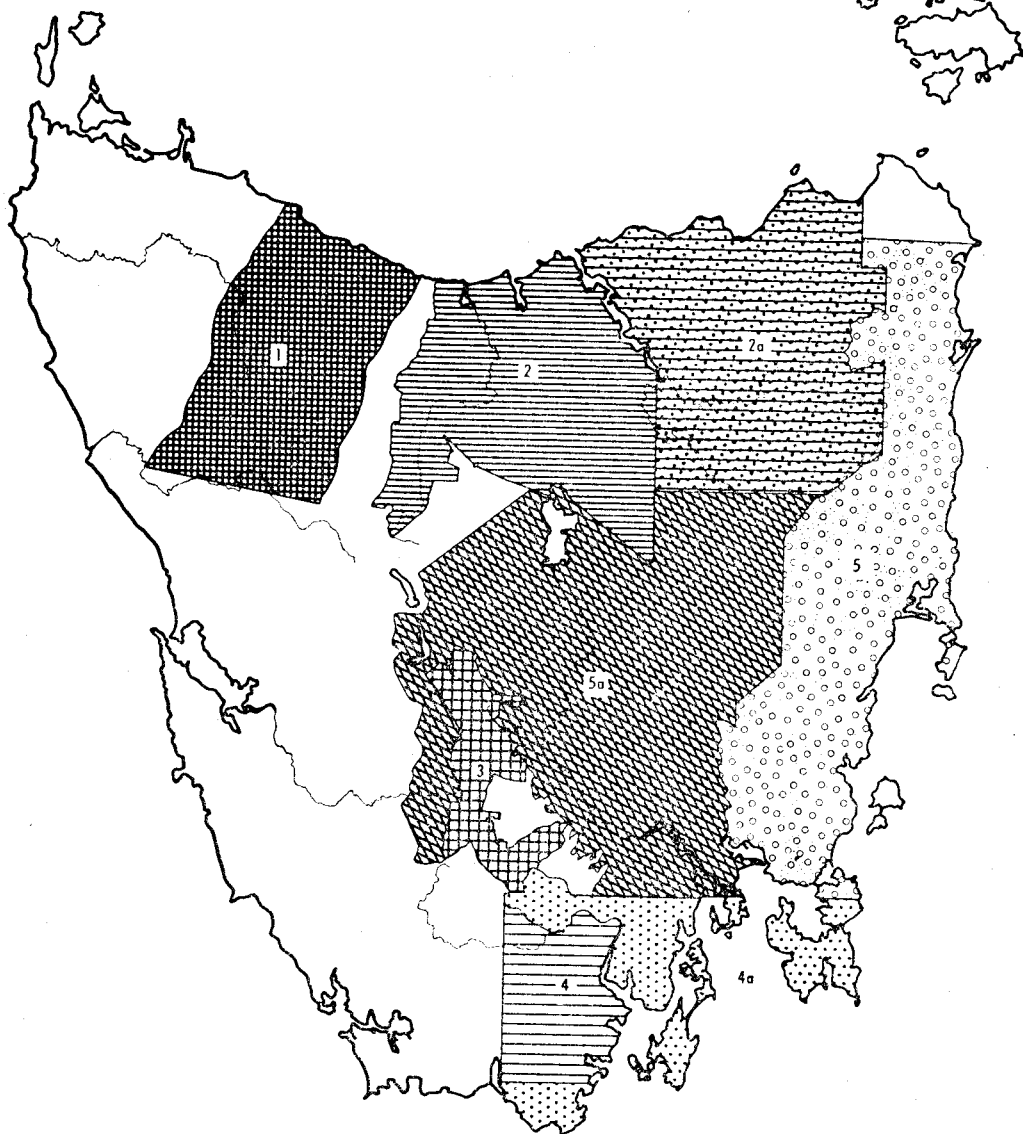
The company's first woodchips were exported from the Spring Bay complex in April 1971.

Associated Pulp and Paper Mills Ltd and Northern Woodchips Pty Ltd constructed their woodchip plants at Long Reach, near Bell Bay, on the Tamar River. Northern Woodchips Pty Ltd has also installed portable and satellite chipping plants throughout the northern half of Tasmania. A.P.P.M. Ltd draws its timber supplies from Crown forest concessions, private land and sawmill waste while Northern Woodchips Pty Ltd relies on timber from private lands and sawmill waste. Annual capacity of the A.P.P.M. Ltd plant is 600,000 tons of woodchips; Northern Woodchips Pty Ltd's 15-year export contract is for an annual 700,000 tons of woodchips.

Both companies commenced production of woodchips in 1972; A.P.P.M. at its Long Reach plant in May 1972 and Northern Woodchips from its portable and satellite chipping plants in mid-1972. First exports by the two companies were made in late 1972.



TIMBER CONCESSION AREAS



A.P.P.M.: (1) Burnie Concession Area; (2) Wesley Vale Concession Area; (2a) Wesley Vale Reserve.
 A.N.M.: (3) Concession Area.
 A.P.M.: (4) Concession Area; (4a) Reserve.
 T.P.F.H.: (5) Concession Area; (5a) Reserve.

Timber Concession and Reserve Areas

The *Pulpwood Products Industry (Eastern and Central Tasmania) Act* 1968 granted concession and reserve areas over much of eastern and central Tasmania to Tasmanian Pulp and Forest Holdings Ltd (see previous map). T.P.F.H. may only utilise the timber resources of the reserve area subject to certain requirements, contained in *Part II, Section ix* of the Act. The company must obtain written permission from the Forestry Commission to extract pulpwood from the reserve area. Authorisation is subject to the establishment of an approved wood pulp undertaking and annual usage of pulpwood, by the pulping establishment, of not less than 200,000 tons. The company is also permitted to obtain pulpwood from areas in the reserve required by the Commission for silvicultural purposes or by utilising trees removed for the purpose of opening the forest for the economic extraction of milling-quality timber.

The establishment in Tasmania of various industries using forest resources has given rise to the need for some guarantee of assured timber supplies to those industries. Therefore certain concessions and cutting rights on Crown lands have been awarded to companies relying on forest products as their raw materials. The preceding map shows the location of concession and reserve areas in Tasmania. Concession areas are those areas where a company is at present allowed to operate while reserve areas are set aside for future use. Providing that the company meets certain stipulated conditions, permission to remove timber from the reserve area will be granted by the Forestry Commission.

Definition of Forest Production

The cutting of logs in a forest and the production of sawn timber in a mill seem closely related activities and may both, in fact, be conducted by a single operator with the same team of employees; similarly, the cutting of pulpwood and its later conversion to newsprint or fine paper may be viewed, in a broad sense, as a single activity. For statistical purposes, however, sawmills, paper mills, newsprint mills, woodchip plants, etc. are classified as factories while logging operations, which provide the raw materials for the factories, are classified as forestry activity. It necessarily follows that the definition of forest production must be restricted to include only the output of logs, hewn timber, firewood, tanning bark, etc. before such products have passed into the sector covered by factory statistics. Some forestry products, as just defined, (e.g. fence posts and rails, hewn sleepers, firewood, etc.) may go direct to the final consumer without passing as a raw material to the factory sector.

Subsequent tables dealing with forest production give details of quantity and value; the following definitions apply:

Measurement of Volume

The three convenient units for expressing the volume of timber are cubic feet, true super feet and hoppus super feet. In practice cubic feet is rarely used as a volume measure for timber. The volume in true super feet can be derived from this relationship:

One true super foot equals one cubic foot divided by twelve. (A true super foot is the volume equivalent to a solid body, one foot long by one foot wide by one inch thick.)

The remaining measure, hoppus super feet, is used in the forest to record log volumes and is derived from the following formula for dealing with round timber:

Volume in hoppus super feet = (One quarter the average girth in inches) squared, the result being multiplied by the length in feet and divided by twelve.

The relationship between hoppus super feet and true super feet can be stated as follows:

$$\frac{\text{Volume in hoppus super feet}}{\text{Volume in true super feet}} = \frac{\pi}{4} = 0.7854$$

In this section, the volume of logs, timber, etc. is expressed in true super feet; some data originally received in terms of hoppus super feet have been converted.

Value of Forest Production

Gross Value of Production is the value placed on the recorded production at the wholesale price realised in the principal markets. In cases where forestry products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets (e.g. the value of logs cut for saw-milling is the value on the mill skids).

Local Value (i.e. value of recorded production at the place of production) is ascertained by deducting marketing costs from gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

In other production sectors, local value of production is further reduced by subtracting the value of materials used in the process of production; the final figure is *net value of production*. In the forestry sector, however, these data on the cost of materials are not available and therefore the only two measures available are: (i) gross value of production; and (ii) local value of production.

Duplication: Until 1968-69, the value of logging operations was included *only* in the forestry sector and excluded entirely from the manufacturing sector. The changed concept of the establishment, introduced in the 1968-69 manufacturing census, involves some logging activity being recorded in the operations of sawmills; in 1969-70, the value of such activity, double-counted (i.e. included in both manufacturing and forestry sectors), was \$1.6m.

Source of Production Data

The principal sources of data are the returns of the various establishments classified as factories (e.g. sawmills, newsprint mills, paper mills, plywood mills, etc.) which report details of logs, pulpwood, sawmill edgings, off-cuts, etc. used as raw materials; other data are available from the State Forestry Commission and the Bureau's export statistics.

Statistics of Forest Production

The next table shows the production of the various forest products and from where they are obtained, i.e. either Crown or private land. In this table, the 'Logs for Processing' figures include the log usage of the new woodchip export industry (the first shipment to Japan was made in April 1971). Woodchips have been an input material for locally based paper and wood pulp plants for many years but demand is expected to increase rapidly now that export outlets have been established.

The following table shows details of forest production:

Forest Production, 1970-71

Product	Obtained from—		Total
	Crown Land	Private Land	
Logs for Processing (a)—			
Forest Hardwoods '000 sup ft true	488,136	258,962	747,098
Indigenous Softwoods '000 sup ft true	3,608	..	3,608
Plantation Grown Pines '000 sup ft true	17,364	6,757	24,121
Total Logs—Quantity '000 sup ft true	509,108	265,719	774,827
Gross Value \$'000	n.a.	n.a.	14,037
Hewn and Other Timber (not included above)—			
Firewood—Weight '000 tons	13	399	412
Gross Value \$'000	n.a.	n.a.	2,783
Other (Gross Value) (b) \$'000	n.a.	n.a.	263
Total Gross Value of Forest Products \$'000	n.a.	n.a.	17,083

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) Includes sleepers, transoms, girders, bridge timbers, mining timber, poles, piles and other forest products such as tanning bark, etc.

The next table shows details of forest production for a five-year period on a basis comparable with the previous analysis (logs in true volume):

Forest Production

Product		1966-67	1967-68	1968-69 ^r	1969-70 ^r	1970-71
Logs for Processing (a)—						
Forest Hardwood ..	m sup ft	690.4	683.0	700.8	742.6	747.1
Indigenous Softwood ..	m sup ft	3.9	4.5	4.4	6.3	3.6
Plantation Grown Pines	m sup ft	23.6	22.2	23.5	27.6	24.1
Total Logs—Quantity	m sup ft	717.9	709.7	728.7	776.5	774.8
Gross Value	\$'000	13,109	13,024	13,456	15,859	14,037
Hewn and Other Timber (not included above)—						
Firewood—Weight ..	'000 tons	444	377	367	389	412
Gross Value ..	\$'000	2,557	2,191	2,426	2,835	2,783
Other (Gross Value) (b) ..	\$'000	962	(c) 273	132	204	263
Total Gross Value of Forest Products	\$'000	16,627	15,488	16,015	18,898	17,083

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) Includes sleepers, transoms, girders, bridge timbers, mining timber, poles, piles, tanning bark, etc.

(c) Not comparable with previous years' figures.

Tasmanian and Australian Log Production

For the purposes of the last two tables, log production is defined as relating to 'logs' for sawing, peeling, slicing, chipping and pulping (i.e. it includes logs used in sawmills as well as those used for production of wood pulp in newsprint and paper mills, woodchips, particle board, etc.). In terms of this definition, Tasmania is a major producer, the State's log production being over 18 per cent of the Australian total in 1969-70; the ranking of the major producers was Victoria with 25.7 per cent and N.S.W. with 22.4 per cent. Considering Tasmania's small relative size and population, it is apparent that forest production is one of its more important contributions to the Australian economy.

Gross and Local Value of Production

The following table gives details of gross and local values of forestry production for a five-year period:

Gross and Local Value of Forestry Production
(\$'000)

Particulars	1966-67	1967-68	1968-69 ^r	1969-70 ^r	1970-71
Gross Value (Production Valued at Principal Markets)	16,627	15,488	16,015	18,898	17,083
Less Marketing Costs	2,295	2,068	2,469	2,765	2,882
Local Value (Production Valued at Place of Production)	14,332	13,420	13,546	16,132	14,201

Timber and Timber Products

Mill Production of Timber

In 1970-71 logs treated in sawmills and plywood mills for the production of sawn, peeled and sliced timber totalled 447m super feet (true volume); the resulting timber totalled 172m super feet.

The difference between the volume of logs treated and of timber produced is not all waste from the miller's points of view. Admittedly, there is very limited use for sawdust but some offcuts are sold to the wood pulp and, more recently, the woodchip industries and other waste is docked and sold as firewood.

Output and Exports

The following table shows timber production by mills for a five-year period, together with exports of sawn timber:

Production and Exports of Sawn Timber					
Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
LOGS TREATED ('000 Super Feet True)					
Hardwood	440,579	447,188	454,963	444,894	435,531
Softwood	11,468	8,818	11,755	12,499	11,465
Total	452,047	456,007	466,719	457,394	446,996
SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS TREATED (a) ('000 Super Feet True)					
Hardwood	170,075	171,972	171,209	169,805	167,113
Softwood	4,319	3,253	4,400	5,491	4,984
Total	174,394	175,225	175,609	175,296	172,097
EXPORTS OF SAWN TIMBER (b) ('000 Super Feet True)					
Total	79,447	77,897	82,609	87,824	85,002
VALUE OF EXPORTS OF SAWN TIMBER (b) (\$'000)					
Total	13,672	13,492	15,329	16,238	17,201

(a) Rough sawn timber including that subsequently seasoned and dressed to produce flooring, weatherboards, etc.

(b) Includes dressed and undressed timber.

Employment

The next table shows the number of sawmills and the number of persons employed. Comparable data for later years are not available.

Number of Sawmills and Persons Employed					
Particulars	1963-64	1964-65	1965-66	1966-67	1967-68
Number of Sawmills	305	308	289	279	274
Average Number Employed During Year (a)—					
Males	2,701	2,793	2,880	2,834	2,745
Females	53	57	62	58	56
Persons	2,754	2,850	2,942	2,892	2,801

(a) In mills; excludes those engaged on logging operations.

Chipping, Grinding and Flaking of Wood

Apart from sawmills and plywood mills, the main users of logs from Tasmanian forests were, until early 1971, the mills producing as their final products wood pulp, paper, hardboard and particle board. As an intermediate stage in the various processing systems, the timber used was chipped, ground or flaked at eight locations; however, statistics of production at this semi-processed stage are available only from 1 July 1970.

Since the commencement of woodchipping for export in February 1971, details have been regularly obtained of *log usage*, and of *production of chipped, ground and flaked wood*, from all mills engaged in producing woodchips as such, wood pulp, paper, hardboard and particle board. During 1970-71, 327m true super feet of hardwood and softwood logs were used by establishments which chipped, ground or flaked wood. Production of chipped, ground and flaked wood for 1970-71 was 816,000 green tons.

At the end of June 1972 there were 18 producing locations for chipped, ground or flaked wood.

The State Forestry Commission

The principal officers of the State Forestry Commission are the chief commissioner and two assistant commissioners. At 30 June 1971 the Commission employed a work force of 599, including administrative staff.

Total expenditure by the Commission during 1970-71 was \$4.2m. This expenditure was funded from Loan Funds and Consolidated Revenue. Money collected each year (mainly from timber royalties) is paid into Consolidated Revenue and, by law, becomes a grant to the Commission the following year.

The Forestry Commission is primarily concerned with the conservation of Tasmania's forests; this requires that it should exercise control over the rate at which logs and pulpwood are taken, and also that it should introduce effective measures to ensure regeneration. Other important functions include: (i) fire prevention and suppression; (ii) road construction to give access to forests; and (iii) development of plantations. Some concept of the scope of Forestry Commission activities can be obtained from the following table:

Activities of Forestry Commission: Summary
(Source: Forestry Commission)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Seedlings Produced '000	2,104	2,725	3,038	2,767	3,275
Plantations—					
Established acres	3,251	4,695	4,351	4,641	5,008
Pruned acres	2,324	1,957	1,987	1,795	2,073
Thinned acres	597	859	1,021	1,022	872
Firebreaks—					
Constructed miles	67	59	86	79	33
Secondary Roads—					
Constructed miles	71	92	75	83	67
Improved miles	12	16	20	21	7
Major Roads—					
Constructed miles	19	24	31	23	21

At 30 June 1971 the Forestry Commission was responsible for maintaining 2,152 miles of major and secondary forestry access roads; of this total, 1,678 miles had been constructed by the Commission and 474 miles by sawmillers. Municipalities with the greatest lengths of Forestry Commission-maintained roads at 30 June 1971 were: Circular Head, 311 miles; Fingal, 293 miles; Esperance, 215 miles; Scottsdale, 176 miles; and Deloraine, 174 miles.

The Commission has a responsibility for preventing and fighting forest fires; losses through bush fires fought by the Commission are reported in the following table:

Bush Fires Fought by Forestry Commission
(Source: Forestry Commission)

Year	Fires Reported	Area Burnt				Cost of Sup-pression
		State Forest	Other Crown Land	Private Property (a)	Total (a)	
	no.	acres	acres	acres	acres	\$
1964-65	146	4,037	4,701	3,077	11,815	31,828
1965-66	317	33,015	50,489	45,643	129,147	71,918
1966-67	264	83,954	194,979	147,286	426,219	108,018
1967-68	230	15,808	59,023	20,874	95,705	61,032
1968-69	87	3,538	6,055	1,612	11,205	18,722
1969-70	118	4,828	8,222	2,322	15,372	21,963
1970-71	114	14,794	3,892	2,721	21,407	22,493

(a) Includes only those fires on private property fought to protect adjoining State Forest or timbered Crown Land.

The main revenue of the Forestry Commission is derived from royalties, i.e. charges paid by those taking timber from Crown lands. By law, such revenue is specifically reserved for expenditure on forestry. The next table has been compiled to show the revenue and expenditure of the Commission for the last five years; expenditure exceeds revenue since money from State loan funds devoted to forestry purposes is included in expenditure.

Forestry Commission: Revenue and Expenditure
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
REVENUE					
Royalties	1,480	1,492	1,496	1,537	1,690
Sale of Forest Products	32	101	75	89	93
Other	45	9	27	27	32
Total	1,557	1,603	1,598	1,653	1,815
EXPENDITURE (a)					
Administration—					
Revenue Collection	113	147	180	196	239
Forest Management	412	414	449	496	555
General	313	364	375	381	457
Forest Works—					
Road Construction	700	702	763	752	853
Building and Other	136	66	75	105	90
Afforestation and Reforestation	935	1,020	1,070	1,140	1,236
Forest Protection (n.e.i.)	112	119	122	134	134
Mapping and Surveys	92	80	92	102	118
Land Purchases	9	2	6	7	17
Purchase, Plant and Equipment	16	24	57	36	85
Interest on Advances	257	286	314	350	392
Total	3,095	3,226	3,503	3,699	4,176

(a) Aggregate expenditure from all sources, i.e. Consolidated Revenue, Loan and Trust Funds.

Commonwealth-State Agreement

The Federal *Softwoods Forestry Agreements Act* 1967 was passed with the specific intention of increasing the rate of softwood plantings in Australia by providing Commonwealth financial assistance to the States. Under the Act each State is allocated: (i) *a base year* area of softwood plantings which is financed by the State; (ii) *a scheduled* area in excess of the base year figure, the excess being financed by special Commonwealth loans. The base year area is constant for each year of the five-year programme which commenced in 1966-67.

Main features of the special Commonwealth loans are: (i) repayment of advances, in 50 half-yearly instalments, is deferred until July of the eleventh year after the date on which payment was made to the State; (ii) the State may repay any portion of the advances at any time prior to the date that payment falls due; and (iii) the loans are interest free for a period of 10 years after which interest accrues on the outstanding balance.

The *base year* areas (financed by the States) of softwood plantings were: N.S.W., 8,100 acres; Vic., 6,000 acres; Qld, 5,200 acres; S.A., 4,500 acres; W.A., 3,000 acres; Tas., 1,940 acres. Tasmania's scheduled softwood plantings (with Australian totals in brackets) for each of the five years ended 30 June were: (in acres) 1967, 4,100 (40,500); 1968, 4,100 (47,600); 1969, 4,400 (53,300); 1970, 4,600 (56,900); 1971, 4,900 (58,500). In 1970-71 the State Forestry Commission planted 5,008 acres.

In mid-1972 a Bill was introduced to the House of Representatives to extend the Commonwealth-State softwood forestry agreement for a further five years.

The Commonwealth aim is to establish two million acres of pine plantations in the next 40 years and Tasmania's target, as part of the plan, is 200,000 acres.

MINING

Introduction

For statistical purposes, mining is taken to cover the operations normally thought of as mining and quarrying (i.e. the removal from underground or surface workings of ores, etc.), the recovery of minerals from ore dumps, tailings, etc. and ore dressing (i.e. concentration and other elementary treatment). It does not include the smelting and/or refining of metallic minerals or the processing of non-metallic minerals (e.g. limestone into cement); these operations are classified as manufacturing.

In the present Tasmanian economy, two important metals will serve to illustrate the distinction between mining and manufacturing: aluminium, produced at Bell Bay on the Tamar and zinc at Risdon near Hobart. In terms of the previous definition, the two metals are considered to be the output of manufacturing and only a small part of their total value is attributable to the mining industry in Tasmania. In the case of aluminium, no Tasmanian ores or concentrates are used and no value accrues to the Tasmanian mining industry. A substantial part of the value of the aluminium is, in fact, accounted for by imported materials. Zinc is produced from both imported and locally-produced concentrate, but only the value of the local concentrates produced at Rosebery is included in the Tasmanian mining industry. The same principle applies with the State's iron-ore pellet industry, i.e. extraction of the ore is classified as mining but pellet-making is classified as manufacturing.

Historical

Supply and Demand

Tasmanian mining activity has been subject to frequent and severe fluctuations, mainly as a result of changes in supply and demand, which are reflected in the market prices of particular metals. Factors which have contributed to this instability are: (i) *Supply*—market prices may fall with the discovery or working of major ore-bodies; (ii) *Demand*—large-scale purchases

of particular metals either to meet unforeseen contingencies or to stock-pile for future requirements may lead to rises in market prices; and (iii) *Technological change*—the development of more economic recovery methods may lead to the working of previously unusable large scale deposits. Developments in industry may also lead to the setting-up of a new market or collapse of an established market in particular metals.

The effects of these and other factors have been offset to some degree by the establishment of controlling bodies such as the International Tin Council. In efforts to stabilise the markets such bodies may exercise control over prices or introduce production quotas.

Definition of Mining

Unfolding the record of the various minerals produced in the State is made difficult by the manner in which previous official mining statistics were compiled. In current statistics, a distinction has been made, in broad terms, between mining a mineral and subsequently refining it to obtain its metallic content—the second process is classified as manufacturing. However, this distinction was not made in earlier statistics and therefore historical comparisons cannot be made with any accuracy. A further difficulty occurs with regard to the value of ores which in older series were valued, in the main, according to the world price for their estimated metallic content, irrespective of whether the extraction was carried out in Tasmania, in other States or in overseas countries. Thus the earlier historical value series is inflated and does not reflect the true earnings of mineral producers within the State. In the evolution of a proper basis for current mining statistics, the chief requirement was to satisfactorily define a border between mining and factory activities and, for Tasmanian data, this was not accomplished until 1952 when the Bureau of Census and Statistics conducted its first mining census. From 1952 the mining census has been conducted on an annual basis.

Because of the definitional difficulties just listed, the historical account of mining in the State has been deliberately restricted largely to details of physical production; other measures such as employment, value of output, wages and salaries paid, etc. are not comparable with those used in the series commencing 1952.

The following map shows the locations of major mines. The sites only are marked and no indication of size is given as the scale of mining varies greatly, even within the mining of the same metal e.g. the west coast lode tin mines are significantly larger than the alluvial tin mines of north-eastern Tasmania.

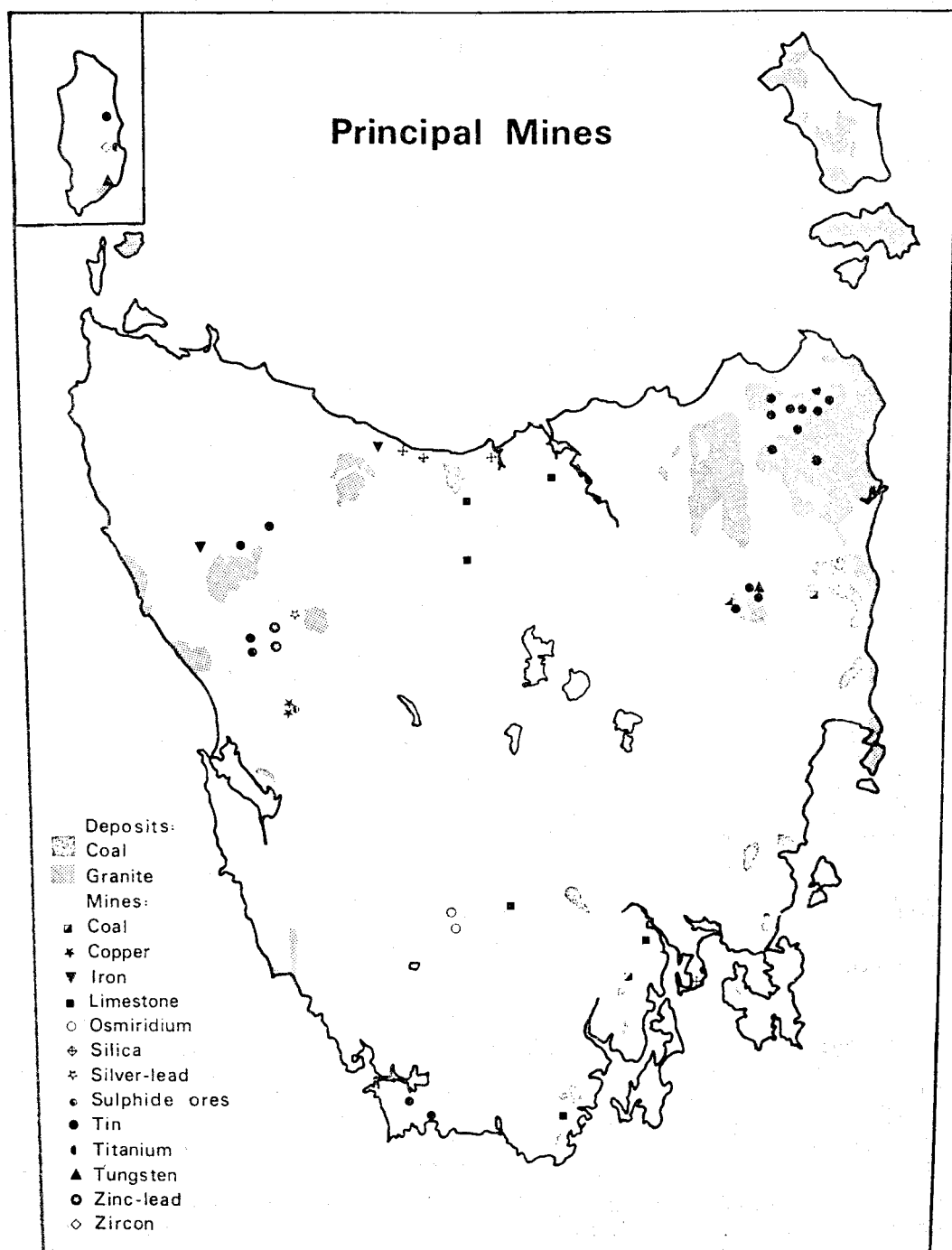
Coal

Early Fields

The site of Tasmania's first mine was on Tasman Peninsula where the convicts from Port Arthur mined 60 tons of coal in 1834; highest production was 10,400 tons in 1840 but, within three years, the work ceased due to the poor quality of the coal and discoveries at other sites. The island's principal coalfields were eventually opened up in the Fingal Valley. In 1885 State production was 6,654 tons, in 1886, 10,391 tons of which the Fingal area contributed 3,820 tons. In 1890 Fingal had reached a dominant position and in that year accounted for 44,946 tons of the 53,812 tons mined in Tasmania.

Decline in Production

By 1920 annual State production had reached 75,000 tons; by 1950 it exceeded 220,000 tons. The peak production year was 1959-60 with an output of over 300,000 tons but since then there has been a decline due to competition from oil. (The introduction of diesel locomotives contributed, in a minor degree, to the fall in demand but the major factor has been a change from coal to oil fuel in manufacturing industries.) Throughout the period, from 1886 till today, the mines of the Fingal Valley have been the State's principal source of coal. In 1967 Tasmanian annual production had fallen to 77,000 tons.



To alleviate hardship and unemployment brought about by the decline of the industry, the Forestry Commission has developed exotic pine plantations in the Fingal Valley to provide gainful employment, while the use of coal fuel in industry has been officially encouraged. The chief consumer is Australian Newsprint Mills at Boyer and use of coal by this company contributed to a 38.5 per cent increase in production in 1969. Production in 1970-71 was 123,500 tons.

By Australian standards, the State's black coal production has never been on a large scale and even in the year of peak Tasmanian production (1959-60) it represented only one and a half per cent of the Commonwealth total. N.S.W. contributed nearly 80 per cent of the total production of black coal. (This total excludes brown coal mined in very large quantities almost exclusively in Victoria.)

Gold

The first appearance of gold mining in *Statistics of Tasmania* dated from 1866 when crushing at Fingal in the north-east produced 347 ounces from 2,872 tons of quartz. In actual fact, gold had been discovered much earlier in slate rocks near Lefroy in 1849 and then at Mangana near Fingal in 1852, the second find setting off a minor gold rush to the alluvial diggings.

During 1859 the first quartz mine started operations at Fingal. In the same year James Smith (better known as 'Philosopher Smith') and Peter Lette found gold at the River Forth and at the Calder. Reef gold was discovered in 1869 at Lefroy. The first recorded returns from the Mangana fields date from 1870; Waterhouse, 1871; Hellyer, Denison and Beaconsfield, 1872; Lisle, 1878; Gladstone and Cam, 1881; Minnow and River Forth, 1882; Branhholm, 1883; and Mt Lyell, 1886.

The largest single source of gold was the 'Tasmania Mine' at Beaconsfield which began operating in 1878. The effect of Beaconsfield operations can be judged from the following State gold production figures (in ounces): 1877, 5,777; 1878, 25,249; 1879, 60,155. Employment in gold mining in 1879 was stated to exceed 2,000 men. Peak gold production for the State was reached in 1899 with 83,992 ounces but this was still only a minor contribution—just over two per cent—to the Australian total.

Ranked in order of accumulated yield, the State's three principal gold mining centres were Beaconsfield, Mathinna and Lefroy. The 20th century witnessed a decline in Tasmanian gold mining, as such; when the 'New Golden Gate' at Mathinna closed in 1912, State annual gold production had fallen to 37,973 ounces. In 1919, with the closure of the 'Tasmania Mine' at Beaconsfield, annual gold production fell to 7,686 ounces.

Today there are no gold mines operating as such, but gold is still produced as a by-product from other minerals, principally concentrates of lead-copper, copper, lead and zinc. The assayed gold content of Tasmanian minerals mined in 1970-71 was 42,210 fine ounces, compared with a Commonwealth total of 612,092 fine ounces (i.e. the Tasmanian proportion had increased to 6.9 per cent).

Tin

In 1871 James ('Philosopher') Smith discovered 'tin oxide' (cassiterite) at Tinstone Creek near Mt Bischoff which was destined to become the greatest tin deposit known in the world. The Bischoff discovery was followed by numerous others, first in the north-east and then at Mt Heemskirk on the west coast. The Mt Bischoff Tin Mining Company, formed to work the deposit, had paid dividends totalling £177 per £5 share by 31 December 1907. Before production ceased, shortly after World War II, Mt Bischoff had yielded more than 80,000 tons of tin ore.

Some concept of the earlier scale of Tasmanian tin mining can be obtained from these export figures: average annual Tasmanian exports of tin, decade ending 1890, 3,800 tons; decade ending 1900, 2,650 tons. A mixture of export and production figures in the decade ending 1910 suggests that tin production had lifted to an annual average of 3,350 tons. In 1920, annual production fell to 1,310 tons and subsequently has often been below 1,000 tons.

There has been an upsurge in tin production in recent years, the result of vigorous exploration programmes undertaken in the 1960s during which potential tin bearing areas were examined. Two significant operations emerged—Cleveland Tin at Luina and Renison Ltd at Renison Bell. Both resulted from the development of known ore-bodies and the discovery of new ore-bearing lodes. The mines have introduced modern methods of underground mining and new treatment plants have been installed. Tin previously lost in plant tailings is now recovered following introduction of cassiterite flotation methods.

Main production today is centred on Renison Bell and Luina on the west coast and Ross-arden, Gladstone and South Mt Cameron in the north-east. In 1970-71 the assayed tin content of tin concentrates produced throughout Australia was 8,747 tons, the Tasmanian component being 5,067 tons.

Silver

The rush to the Zeehan-Dundas area, where silver-lead ore was discovered in 1882, commenced in 1888 and by 1891, 159 companies and syndicates were operating in the area. Initial rich returns led to the installation of a smelting plant at Zeehan. However, the rich surface ores were soon depleted; payable ore was located only below 600 feet and the field gradually declined after the closing of the Zeehan smelters in 1909.

The State still produces silver but mainly as a by-product of copper mining at Mt Lyell and zinc-lead mining at Rosebery. Operations at the Farrell Mine at Tullah were in the past regarded as 'pure' silver-lead mining because the zinc content was not recovered. The mine is now owned by the Electrolytic Zinc Company (A/asia) Ltd and the ore is treated at Rosebery together with zinc-lead ore from the company's Rosebery and Williamsford mines. In 1970-71 the assayed silver content of Tasmanian mine production was 1,587,040 fine ounces, approximately 6.8 per cent of the corresponding Australian total. N.S.W. and Queensland are the leading producers.

Copper

The history of the Mt Lyell field dates from 1883 when the McDonough brothers and Johannes Karlson discovered the 'Iron Blow' outcrop. Isolation impeded development of the field and the transport problem was not solved until 1899 when the Mt Lyell Company's railway reached Strahan. The following year the North Mt Lyell Company completed a railway between Linda and Kellys Basin. The absurdity of two railways in the same area ended in 1903 with an amalgamation of the two companies.

Low-cost pyritic smelting was perfected at Mt Lyell in 1902 and as a result a smelting industry was established at Queenstown. In 1969 the smelter was closed down and subsequently concentrate has been shipped to Port Kembla and Japan for processing.

Mt Lyell, for many years Australia's leading copper mine, still ranks high among Australian producers. The final shot was fired at the 800 feet deep West Lyell open-cut mine on 31 August bringing to an end its 37-year working life. Mt Lyell Mining and Railway Co. has resumed underground mining in the Prince Lyell field, although a small open-cut at Crown-Three will continue for several years.

In 1970-71 the assayed copper content of Tasmanian mineral production was 23,469 tons, or about 14 per cent of the corresponding Australian total, Queensland being the principal producing State. About 90 per cent of the Tasmanian total is derived from Mt Lyell ores but there is also a copper content in the ores mined at Rosebery and Williamsford.

Zinc

The complex Rosebery ores were discovered near Mt Read in 1894 but it was not until 1925, when the Electrolytic Zinc Company of Australasia commenced smelting the Rosebery ores at Risdon, that full-scale development of the field commenced. The Rosebery mines have been in continuous production since 1925, apart from a temporary shut-down in the period 1930-1936 when depressed world zinc prices curbed production.

Mine output comes from three mines: the Rosebery mine at the foot of Mt Read (90 per cent of total output); the Hercules mine at Williamsford, some 2½ miles south of Rosebery; and the Farrell mine at Tullah, on the Murchison Highway six miles north-west of Rosebery. Total annual capacity of the mining complex was almost doubled following the completion in 1971 of a new shaft at the Rosebery mine.

In 1970-71 the assayed zinc content of Tasmanian mine production was 40,051 tons, approximately nine per cent of the corresponding Australian total; N.S.W. was the major producer of zinc bearing ores. Tasmania is still the leading producer of refined zinc, the recovery process using both local and interstate concentrates. Production constitutes about 64 per cent of the Australian total.

Lead

The mining fields at Zeehan and Dundas were established to obtain silver from silver-lead ores; lead was produced as a by-product. Silver-lead mining has long ceased on the Zeehan fields. The Farrell mine at Tullah produces silver-lead ore which is treated at Rosebery with zinc-lead ores from Rosebery and Williamsford. These ores are now the principal source of lead in Tasmania.

In 1970-71 the assayed lead content of Tasmanian mine production was 12,318 tons, about three per cent of the corresponding Australian total; N.S.W. and Queensland are the principal producers.

Tungsten

Tungstic oxide (WO_3) occurs in two forms: in scheelite (calcium tungstate) and wolfram (iron manganese tungstate). There is a marked distinction between the mining of scheelite and of wolfram. Whereas scheelite in Tasmania is mined for its WO_3 content, wolfram is usually found in association with tin. Production of wolfram began in 1906 at Moina in the north-west but now comes from mixed tin-wolfram mines in the Avoca area.

Australia's principal domestic producer of tungstic oxide is King Island Scheelite Ltd from its mine at Grassy.

In 1970-71 the assayed tungstic oxide content of Tasmanian mine production was 1,523 tons; this was 88.7 per cent of the Australian total. Continued high world prices were reported during 1970-71 as good quality tungsten was in short supply in overseas markets.

Sulphur

There are no known deposits of elemental sulphur in Australia, but its use is of vital importance in the heavy chemical and fertiliser industry, the principal form being as sulphuric acid. The sulphur content of the Mt Lyell and Rosebery ores is used to manufacture this acid.

In May 1970 a \$14m sulphuric acid plant was opened at Burnie as a joint venture by Mt Lyell Mining and Railway Company Ltd and Electrolytic Zinc Company (A/asia) Ltd using pyrites railed from the Mt Lyell and Rosebery mines. Sulphuric acid is also produced as a by-product by the Electrolytic Zinc Company (A/asia) Ltd at its Risdon plant. In 1970-71 the assayed sulphur content of Tasmanian mine production was 89,177 tons or 21.7 per cent of the corresponding Australian total. N.S.W. is the principal producing State.

Iron Oxide and Iron Ores

Tasmania has large deposits of iron ore which until recently were used mainly for iron oxide in the local manufacture of cement. The principal Tasmanian deposit at Savage River is held on licence by an Australian company, Industrial and Mining Investigations Pty Ltd. Part of the deposit is leased to American interests who have developed the Savage River mining complex described in detail in the 1968 *Year Book*.

Investigation work is also being carried out on additional iron ore deposits at Blythe and Hampshire on the north-west coast. During 1970-71, the Savage River mine produced 2,017,640 tons of dry concentrate with an assayed iron content of 1,390,565 tons, and produced 1,974,976 tons of pellets valued at \$24.5m.

MINERAL EXPLORATION

Introduction

The ore bodies in the areas leased to mines may be large but it is inevitable that they will be exhausted at some time in the future; rather than passively wait for this event, owners of operating mines press on with exploration outside the boundaries of their leases. In the past year competition for exploration areas has slackened. In Tasmania there has been concentration on relatively small areas where geological, geochemical and geophysical surveys have indicated favourable conditions for the occurrence of mineral deposits.

Mineral Exploration Areas

At 31 December 1971, 105 exploration and special prospectors' licences were in force in Tasmania covering an area of 11,542 square miles. Many of these licences are held by separate companies which are actively engaged in exploration. Comprehensive lists of the companies searching for minerals or performing developmental work were printed in previous Year Books.

In addition to companies investigating their own leases, several mining groups are engaged in exploration under options or other arrangements with licence holders and mining lessees.

Interest in mineral exploration in Tasmania has been at a high level in recent years. Companies which have been engaged in exploration for a considerable time are being restricted to areas where investigations have indicated that a more intensive search is justified. This has released areas for exploration by other companies which in some cases employ new investigation techniques.

Drilling by Mines Department

During 1970 the Mines Department employed its drilling plants in boring tin alluvials in the Gladstone district, lode tin deposits at Waratah, limestone deposits at Flowery Gully, coal deposits at Fingal and Mt Nicholas and clay deposits at Launceston. Water investigations were undertaken in the Longford and Scottsdale districts. The Department also undertook stratigraphic boring for geological purposes at Glenorchy and Cygnet.

Assistance Provided by Mines Department

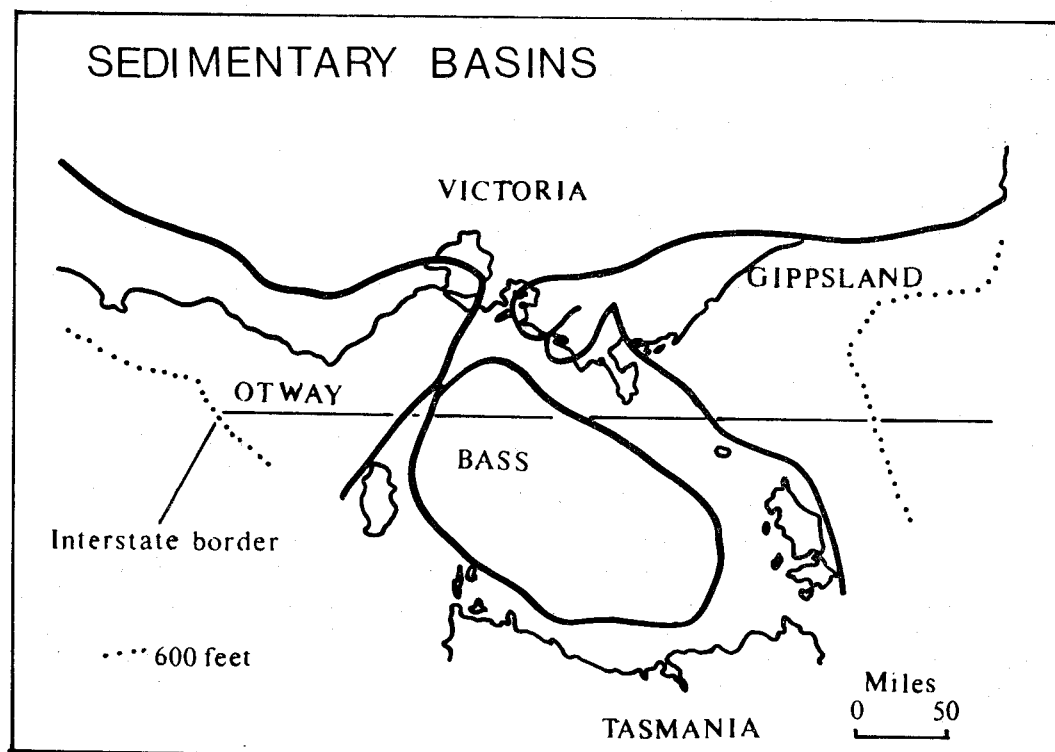
The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery, for sinking, repairing or de-watering of shafts, for construction of dams and water races, for testing and proving a deposit of any mining product, for developmental work, and for diamond and other types of drilling. The Department has available, for hire, percussion and diamond drills for exploration as well as complete plant for small shaft sinking and tunnelling. Other assistance is rendered to the industry in the form of geological and engineering advice, through ore-dressing, research into metallurgical recoveries, and the selection and design of treatment plant.

PETROLEUM EXPLORATION

General

In Tasmania at the end of December 1971 there was in force one Petroleum Exploration Licence issued under the *Mining Act* 1962 and seven offshore Exploration Permits issued under the *Petroleum (Submerged Lands) Act* 1967-1968. The licence covered 230 square miles. The offshore exploration permits covered 42,575 square miles of the continental shelf and adjacent Tasmanian waters.

The accompanying map shows the major sedimentary basins in south-eastern Australia.



Only a small number of exploration wells has been drilled in Tasmanian waters, the numbers for recent years being: 1965, one; 1966, one; 1967, one; 1968, one; 1969, three; 1970, four; 1971, one. In May 1972 another exploration well was commenced in the Bass Basin. This well, Pelican No. 4, was drilled at latitude $40^{\circ} 15' S$ and longitude $145^{\circ} 51' E$ by the Esso-B.H.P. partnership. Hydro-carbon indications were found in cores taken from the well.

There was no onshore drilling during the period 1969 to June 1972.

Exploration Statistics

The following table shows details of wells, footages drilled and private expenditure for petroleum exploration:

Petroleum Exploration, Tasmania

Particulars	1966	1967	1968	1969	1970	1971 _p
Wells Drilled—Offshore.. .. no.	1	1	1	3	4	1
Onshore.. .. no.	..	4	1	..	..	..
Footage Drilled feet	6,607	11,881	14,332	9,770	35,139	4,060
Private Expenditure (a) \$'000	r 1,293	r 2,424	r 998	1,837	4,708	..

(a) Excludes Commonwealth Government exploration subsidy.

The above section was prepared from information made available by the Tasmanian Mines Department, the Petroleum Information Bureau (Australia), the Ministry of Fuel and Power, Victoria and the Bureau of Mineral Resources.

STATISTICS OF MINERAL PRODUCTION

Source of Data

Statistics relating to quantities of minerals produced (including assayed metallic content) are, in the main, obtained from the State Mines Department and are supplemented, where necessary, with data obtained from the annual census of mines and quarries conducted by the Bureau of Census and Statistics, and from the Commonwealth Bureau of Mineral Resources.

Other details of the mining industry, such as employment, value of output, and costs of production, etc. are obtained from the annual census of mines and quarries conducted by the Bureau. This census was first conducted in 1952 and the information obtained from each census was basically the same until 1968. As from 1968-69 the mining sector census was standardised in accordance with the concepts employed in the Integrated Economic Censuses (see the Appendix to Chapter 10 for comparison between mining and other industries included in the Integrated Censuses).

Metallic Minerals

The table that follows shows the quantity of metallic minerals produced in Tasmania for a five-year period:

Metallic Minerals: Production

Mineral	1967	1968	1969	1970	1971
TONS					
Copper—Concentrate ..	55,600	r 54,064	59,940	r 84,240	86,455
Ore ..	8,422	5,056	5,754	(a) ..	(a) ..
Precipitate ..	90	123	61	(a) ..	(a) ..
Copper-Tin Concentrate ..	..	877	3,303	3,763	4,618
Iron—Concentrate ..	..	708,399	1,962,849	1,917,975	2,158,641
Oxide ..	7,866	12,780	11,117	9,457	10,555
Lead Concentrate ..	13,766	13,352	13,596	12,459	16,319
Lead-Copper Concentrate ..	12,227	12,558	12,901	11,722	13,005
Pyrite Concentrate ..	59,714	r 42,504	28,535	r 107,053	150,135
Rutile Concentrate ..	..	..	5,239	7,409	6,821
Tin Concentrate ..	2,352	5,154	8,072	9,077	11,415
Tungsten Concentrates—					
Scheelite Concentrate ..	1,200	1,460	1,530	1,070	1,585
Wolfram Concentrate ..	435	484	601	898	803
Zinc Concentrate ..	81,751	82,458	84,255	77,348	88,228
Zircon Concentrate ..	..	..	6,096	6,075	3,770
OUNCES					
Gold (not in Concentrates)	160	118	144	120	15

(a) Smelting of these items at Mt Lyell has ceased; present operations involve production of copper concentrates (mainly for export).

Assayed Content

In the following table, the various concentrates have been grouped to show their content in terms of individual metals. The contents stated are as determined by assay and include all pay metals and metals which are a refiner's prize; totals compiled on this basis contain no allowances for losses in smelting and refining and therefore, in general, exceed the quantities actually recoverable. The table refers exclusively to minerals mined in Tasmania.

Assayed Contents of Metallic Minerals Produced

Mineral	1967	1968	1969	1970	1971
COPPER (Tons)					
Copper—Concentrate ..	15,243	14,510	16,251	r 21,681	22,246
Ore	406	181	86	(a) ..	(a) ..
Precipitate	20	26	16	(a) ..	(a) ..
Copper-Tin Concentrate ..	..	169	570	764	910
Lead Concentrate	74	95	108	92	90
Lead-Copper Concentrate ..	1,250	1,333	1,378	1,290	1,583
Zinc Concentrate	270	287	276	269	293
Total	17,263	16,601	18,685	r 24,096	25,122
GOLD (Fine Ounces)					
Copper—Concentrate ..	8,970	8,837	10,487	r 13,234	13,589
Ore	117	48	52	(a) ..	(a) ..
Lead Concentrate	2,475	3,141	3,821	2,755	3,676
Lead-Copper Concentrate ..	23,169	21,553	22,908	24,260	37,122
Zinc Concentrate	2,637	2,812	2,846	2,937	3,235
Other Sources	151	107	132	108	14
Total	37,519	36,498	40,246	r 43,294	57,636
IRON (Tons)					
Iron Concentrate .. ..	..	494,525	1,366,397	1,324,802	1,473,831
LEAD (Tons)					
Lead Concentrate	8,098	7,841	7,911	7,256	9,473
Lead-Copper Concentrate ..	4,603	4,682	4,580	3,961	3,310
Zinc Concentrate	2,431	2,390	2,415	2,475	3,549
Zinc-Lead Ore .. ..	..	..	..	22	..
Total	15,132	14,913	14,906	r 13,714	16,332
SILVER ('000 Fine Ounces)					
Copper—Concentrate ..	72	82	79	r 117	118
Ore	10	4	2	(a) ..	(a) ..
Lead Concentrate	344	362	353	331	383
Lead-Copper Concentrate ..	1,114	1,054	1,054	998	1,218
Zinc Concentrate	259	248	255	271	319
Zinc-Lead Ore .. ..	..	..	..	2	..
Total	1,799	1,749	1,743	r 1,719	2,038
SULPHUR (Tons)					
Lead Concentrate	2,790	2,678	2,693	2,435	3,289
Lead-Copper Concentrate ..	3,081	3,260	3,373	3,097	3,768
Pyrite Concentrate	28,827	20,536	13,525	(b) 50,873	71,179
Zinc Concentrate	26,785	26,600	27,109	26,762	29,088
Total	61,483	53,074	46,700	83,167	107,324

Assayed Contents of Metallic Minerals Produced—continued

Mineral	1967	1968	1969	1970	1971
ZINC (Tons)					
Lead Concentrate	2,304	1,730	2,442	2,314	2,997
Lead-Copper Concentrate	1,342	1,414	1,445	1,441	1,834
Zinc Concentrate	45,211	45,002	46,207	42,399	47,073
Zinc-Lead Ore .. ..	..	..	..	27	..
Total	48,857	48,146	50,094	r 46,181	51,904
TIN (Tons)					
Copper-Tin Concentrate .. ..	..	60	159	180	155
Tin Concentrate	1,529	r 3,044	r 4,659	r 4,759	5,914
Total	1,529	r 3,104	4,818	4,939	6,069
TUNGSTIC OXIDE (WO ₃) (Tons)					
Scheelite Concentrate	863	1,056	1,093	760	1,133
Wolfram Concentrate	320	347	436	648	580
Total	1,183	1,403	1,529	1,408	1,713
CADMIUM (Tons)					
Zinc Concentrate	73	74	76	69	83
MANGANESE (Tons)					
Zinc Concentrate	243	246	254	206	501
TITANIUM OXIDE (Tons)					
Rutile Concentrate .. ..	..	..	4,933	7,026	6,482
Zircon Concentrate .. ..	..	..	30	20	15
Total .. ..	..	..	4,963	7,046	6,497
ZIRCON (Tons)					
Rutile Concentrate .. ..	..	..	34	77	50
Zircon Concentrate .. ..	..	..	5,964	5,972	3,710
Total .. ..	..	..	5,998	6,049	3,760

(a) Smelting at Mt Lyell has ceased; present operations involve production of copper concentrate (mainly for export).

(b) Increased concentrate produced in association with sulphuric acid manufacture at Burnie.

Fuel Minerals (Coal)

The only fuel mineral mined in Tasmania is coal; details of production are shown for a five-year period.

Production of Coal in Tasmania
(^{'000 Tons})

Description	1967	1968	1969	1970	1971
Coal, Black—					
Semi-anthracite	2	2	2	1	..
Bituminous	75	89	126	123	122
Total	77	91	127	124	122

Non-Metallic (Excluding Fuel) Minerals

The quarrying of limestone is the earliest recorded activity in the field of non-metallic mineral mining in the State; burnt lime being sought as a base for building mortar. Production of this non-metallic mineral has gradually increased to meet a rising demand in various industrial processes. Large exports of limestone were made in the period 1918-1947, when The B.H.P. Co. Ltd operated quarries at Melrose on the north-west coast.

The next table shows the Tasmanian production of non-metallic minerals for a five-year period:

Non-Metallic (Excluding Fuel) Minerals Production
(Tons)

Mineral	1967	1968	1969	1970	1971
Clays and Shales—					
Brick	153,574	160,104	165,129	125,878	119,969
Other	42,208	63,099	72,052	79,302	99,886
Dolomite	2,143	2,534	1,515	3,341	2,518
Limestone (a)	348,449	495,811	550,074	509,193	477,925
Peat Moss .. ..	..	131	151	139	..
Ochre	97	11	79	41	70
Pebbles	1,237	1,214	1,023	1,642	1,486
Silica (b)	13,016	13,238	27,860	49,601	36,097

(a) Excludes quantities used directly as building or road construction materials.

(b) For glass, chemical, etc. manufacturing.

Construction Materials

In addition to the types of mining and quarrying previously described there is the quarrying of construction materials (for buildings, roads, etc.) such as crushed and broken stone, gravel and sand. This type of activity also is taken into account when placing a value on the output from mines and quarries, measuring their level of employment, etc.

Mining Industry Statistics, Pre-1968-69

In earlier sections of this Chapter, the data on mining and quarrying have been confined to physical production and metallic content by assay, but other measures such as the level of employment, values of output, etc. are also available to cover the period 1952 to 1968. Operations for 1968-69 and subsequent years were covered by new definitions, etc. explained in the next section of the Chapter under the heading 'Census of Mining Establishments'. A definition of the field of activity classified as 'Mining and Quarrying' in pre-1968-69 series appears as an introduction to the 'Mining' section of this Chapter.

In 1968 there were 44 mines and quarries employing four or more persons. Employment details for these mines, on the last full working day of the 1968 year, were: working proprietors, seven; salaried employees (above ground), 543; salaried employees (below ground), 93; wage earners (above ground), 1,950; wage earners (below ground), 770; total persons employed, 3,363.

In addition to the 44 mines and quarries employing four or more persons, a further 124 mines and quarries, each employing less than four persons, operated in 1968.

The relative insignificance of these small mines and quarries can be judged from the fact that in total they accounted for only seven per cent of the total number of persons employed in all mines and only 3.1 per cent of the total value of output of all mines. The five largest Tasmanian metal mines accounted for 70 per cent of the employment and 84 per cent of the value of output.

Values of Output and Production

Before 1968-69, the following definitions were used in statistics dealing with mining:

Value of Output was defined as the selling value at the mine or quarry (i.e. exclusive of transport costs from mine or quarry to the point of sale). Value added by reduction of ores, concentrates, etc. to metals was excluded.

Value of Production was defined as the selling value at the mine or quarry *less* the cost of power, fuel and light and the cost of certain materials and stores such as timber, explosives, etc. No allowance was made for depreciation or costs of maintenance.

The next table gives details up to 1968 of value of output, value of production and costs data for mines and quarries employing four or more persons (see next section for later figures):

Mines and Quarries (a): Value of Output; Value of Production; and Costs
(£'000)

Particulars	1964	1965	1966	1967	1968
Value of Output	24,109	27,929	33,504	33,614	43,814
Less Cost of Power, Fuel and Light Used	786	785	844	1,069	1,815
Less Other Costs (mainly Materials)	5,965	7,801	7,791	8,308	10,436
Value of Production (b)	17,358	19,343	24,868	24,238	31,563
Salaries and Wages Paid (c)—					
Salaries	1,264	1,305	1,832	2,723	2,513
Wages (d)	6,819	7,604	8,045	9,126	10,062
Total Salaries and Wages	8,083	8,909	9,877	11,849	12,574

(a) Mines and quarries employing four or more persons.

(b) The cost of labour is *not* deducted in determining the value of production.

(c) Exclusive of drawings by working proprietors.

(d) Net amount after deducting value of explosives sold to own employees.

The previous table on output, production, etc. has been restricted to data obtained from mines and quarries employing four or more hands, this size level providing a basis for uniform mining statistics in all Australian States. However, the annual mining census in Tasmania sought information from all establishments engaged in mining and quarrying including those with less than four persons employed. The following table shows the value of output for all mining and quarrying operations and also the contribution of specific types of activity (see next section for later figures):

**All Mines and Quarries: Value of Output
(\$'000)**

Particulars	1964	1965	1966	1967	1968
Metal Mining	21,600	25,349	30,187	31,102	41,114
Fuel Mining	649	430	362	322	371
Non-metal (excluding Fuel) Mining (a) ..	864	744	732	611	690
Total Mining	23,113	26,523	31,281	32,035	42,175
Construction Material Quarrying ..	1,935	2,475	3,280	2,652	2,793
Total Mining and Quarrying ..	25,048	28,998	34,561	34,688	44,968

(a) Includes clays, dolomite, silica, limestone, etc.

Smelting and Refining of Metals

The value of output of mining and quarrying is defined as the selling value of the product at the mine or quarry (e.g. in metal mining, usually the selling value of specific concentrates at the mine). Earlier, reference was made to the fact that Tasmanian manufacturing industry included the extraction and refining of metals, not only from locally produced ores and concentrates, but also from those that have been imported; in actual fact, extraction and refining in Tasmania employ more persons than mining and result in greater values, both of output and of production. The following table is compiled from factory statistics to illustrate this point:

Non-Mining Activity: Extracting and Refining Metals; Values of Output, Production, etc.

Particulars	1963-64	1964-65	1965-66	1966-67	1967-68
Factories no.	4	4	4	4	4
Average Workers (a) no.	3,444	3,394	3,404	3,565	3,455
Value of—Output \$'000	66,238	81,336	83,049	91,473	83,374
Production (b) \$'000	24,065	27,185	28,792	36,230	33,137

(a) Average whole year, including working proprietors.

(b) Value of output less recorded costs of manufacture, other than labour.

In the previous table, the principal metals included are: copper (from local ores), zinc and cadmium (from local and imported ores), aluminium (from imported bauxite) and ferro-manganese alloy (from imported ores).

The value of production in the factory table does not duplicate values already recorded in the mining sector since the cost of the basic raw materials—ores or concentrates—is one of the recorded costs of manufacture deducted from the value of output.

The next table gives details of the production of zinc and copper by refinery processes:

**Non-Mining Activity: Production of Zinc and Copper
(Tons)**

Year	Refined Zinc	Copper (a)	Year	Refined Zinc	Copper (a)
1963-64	138,610	11,790	1966-67	143,917	14,627
1964-65	138,779	12,125	1967-68	129,789	14,062
1965-66	143,911	13,912	1968-69	148,707	14,392

(a) Refined copper to 1964-65; blister copper from 1965-66. In October 1965, the Mt Lyell refinery was closed down and the blister copper was thereafter shipped to Port Kembla (N.S.W.) for refining. In December 1969, the Mt Lyell copper smelters closed down.

Aluminium Production

The refinery for the production of alumina and refined aluminium is situated at Bell Bay on the River Tamar. Production of alumina commenced in February 1955, and of refined aluminium in September 1955. Published statements indicate that the capacity of the plant, in terms of primary aluminium, has been lifted steadily in recent years. The commissioning in 1971 of a third potline brought annual capacity to 94,000 tons, nearly eight times the plant's productive capacity in 1961.

CENSUS OF MINING ESTABLISHMENTS, 1968-69

Introduction

As related in the previous section of this Chapter, annual censuses of mines were conducted by the Bureau from 1952; the last 'old-style' mining census covered the calendar year 1968. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of mining and four other sectors (manufacturing; wholesale trade; retail trade; and electricity and gas production and distribution). In the Appendix to Chapter 10, the results of these censuses are presented so that the economic significance of mining can be compared with that of other sectors included in the censuses.

The reasons for changing to new concepts, new definitions, etc. are set out in Appendix A in the 1972 Year Book.

Definition of Mining Establishment

All Activities at One Location

In all 1968-69 censuses, the basic census unit, in general, covers all the operations carried on under the one ownership at a single physical location. The *mining establishment* is thus one *predominantly* engaged in mining, but the data supplied for it now cover (with a few exceptions) the following activities (where applicable) at the location:

- (a) mining activities, including the dressing or beneficiation of ores or other minerals;
- (b) any activities connected with the selling and distribution of the minerals produced; and
- (c) any non-mining activities (e.g. manufacturing, construction, etc.).

Exceptions to this total coverage rule are made where any secondary or subsidiary activity (in terms of gross value) exceeds \$1m, and such locations are treated, for statistical purposes, as two or more establishments corresponding to the various kinds of activity carried on.

Administrative Offices and Ancillary Units

The mining establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the enterprise which owns and operates the establishment. These units, such as head offices, storage premises, etc. were excluded from the 'old-style' mining censuses.

Effects of New Classification

The application of the definition of standardised census units has resulted in the exclusion of a number of units included in earlier mine censuses. Previous censuses covered mining and quarrying activities at a location, irrespective of whether they were the predominant activity. However, from 1968-69, if mining or quarrying is not the predominant activity, the establishment is included in a different census if its major activity is reported in another census sector, or otherwise classified as 'out-of-scope' of all present census sectors. For example, a brickworks mining its own clay is included in the manufacturing census and excluded from the mining census.

The most obvious effect of the change in scope is a reduction in the number of Tasmanian establishments: the number included in the 1968 mining and quarrying census was 168; the number included in the 1968-69 integrated census was only 85. The factors causing this sharp drop can be summarised as follows:

- (i) application of major activity rule as basis for inclusion in the mining census; and
- (ii) itinerant and part-time miners have now been omitted because of their limited scale of operations and consequent difficulties in collecting census returns from them.

Most of the reduction in number of establishments was due to factor (ii) but factor (i) had some effect, the most obvious exclusions being clay-mining and limestone quarrying (when these are subsidiary activities in establishments classified under manufacturing) and construction material quarrying (when this is a subsidiary activity of establishments classified under building and construction). It should be noted, however, that the excluded establishments are mainly small ones and that the volume of mining activities accounted for by such establishments is relatively insignificant.

New Data Concepts

The introduction of standardised data items in all census sectors has involved changes in the content of mining statistics. Basic items in the former mining censuses were 'value of output' and 'value of production' (see definitions in the previous section, 'Statistics of Mineral Production'); the new corresponding items in the 1968-69 mining census are 'turnover' and 'value added'. The new items are derived in a different way and while the old 'value of production' is somewhat similar in concept with the new 'value added', the old 'value of output' referred to value at the mine whereas 'turnover' relates to actual sales. The new items are defined below:

Value of Turnover

The value of turnover: *Equals* Sales and transfers out of minerals and other goods produced by the establishment;

Plus Sales and transfers out of minerals and other goods not produced by the establishment;

Plus Bounties and subsidies on production;

Plus All other operating income;

Plus Capital work done for own use, or for rental or lease.

In the above definition, all other operating income *includes* commission, repair and servicing revenue but *excludes* rents, leasing revenue, interest (other than from hire purchase), royalties and receipts from the sale of fixed tangible assets.

Purchases and Selected Expenses

Purchases and Selected Expenses: *Equals* Purchases and transfers in of electricity, fuels, stores and other materials for use in production;

Plus Purchases and transfers in of minerals and other goods for resale;

Plus Charges for commission and sub-contract work;

Plus Repair and maintenance expenses;

Plus Outward freight and cartage, motor vehicle running expenses and sales commission payments.

Value Added

The Value Added: *Equals* Value of turnover *plus* increase (or *less* decrease) in stocks *less* purchases and selected expenses.

Value added is the appropriate measure for comparing various industries and can be added for groups of industries without there being any possibility of duplication.

Transfers: In the previous definitions, the terms 'transfers in' and 'transfers out' occur. The transactions refer exclusively to transfers between establishments of the same enterprise.

Preliminary Results, 1968-69

The tables that follow give preliminary results for the 1968-69 mining census. The results are subject to revision because: (i) the detailed industry classification of mining establishments is still to be confirmed; (ii) transfers between establishments may need further adjustment to obtain consistent values; and (iii) two elements have not been taken into the calculation of turnover, namely bounties and subsidies, and capital work done for own use, or for rental or lease. Because of this last fact, the term 'turnover' is not used in the tables, the substitute being 'Sales, transfers out and other operating revenue'.

Non-comparability

Direct comparisons with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data.

It should be noted, however, that statistics of the value of output at the mine of mineral products will continue to be compiled for all establishments, including those excluded from the mining census.

Census of Mining Establishments, 1968-69
Preliminary Summary of Operations by Industry Sub-Division

Industry Sub-Division	ASIC Code (a)	Establishments Operating During 1968-69	Persons Employed (b)			Wages and Salaries
			Males	Females	Persons	
		no.	no.	no.	no.	\$m
Metallic Minerals	11	41	3,527	121	3,648	15.4
Coal	12	3	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Crude Petroleum, incl. Natural Gas	13	..	..	..	..	..
Construction Materials ..	14	31	162	3	165	0.5
Other Non-Metallic Minerals	15	10	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Total Mining (c) ..	..	85	3,810	130	3,940	16.3

Census of Mining Establishments, 1968-69
Preliminary Summary of Operations by Industry Sub-Division—continued

Industry Sub-Division	ASIC Code (a)	Sales, Transfers Out and Other Operating Revenue	Stocks at 30 June		Purchases, Transfers in and Selected Expenses	Value Added
			1968	1969		
		\$m	\$m	\$m	\$m	\$m
Metallic Minerals	11	55.6	7.2	8.3	18.4	38.3
Coal	12	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Crude Petroleum, incl. Natural Gas	13	..	..	..	..	..
Construction Materials ..	14	2.3	0.2	0.3	1.0	1.4
Other Non-Metallic Minerals	15	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Total Mining (c) ..	..	59.1	7.4	8.6	19.8	40.4

(a) Australian Standard Industrial Classification.

(b) Last pay period in June; includes working proprietors.

(c) Excludes services to mining.

FISHERIES

General

The Tasmanian fishery involves about 1,090 licensed fishermen who operate from 529 vessels. The species which comprise the annual catch are not only scale fish but also include elasmobranchs (sharks), molluscs (scallops, oysters, abalone) and crustaceans (Southern Rock Lobster).

In 1970-71 approximately 6,962 tons of fish, molluscs and crustaceans were harvested. The catch is composed of about 40 types of which five (Southern Rock Lobster (Crayfish), shark, Snoek (Barracouta), abalone and Salmon) are of major importance (about 95 per cent of the catch).

The Sea Fisheries Division controls saltwater fisheries and the Inland Fisheries Commission controls the freshwater fisheries. Most freshwater fish are caught for sport but two species (eels and whitebait) are caught for sale.

Commercial fishing for whitebait began in 1941 and reached a peak in 1947 when over a million pounds were caught. The canning of whitebait ceased in the early 1950s and the annual catch declined to a few thousand pounds; however, the 1971-72 catch was 11,000 pounds.

Rainbow Trout are raised commercially on a trout farm at Bridport. There are Rainbow and Brown Trout in Tasmanian lakes and rivers (introduced as exotic species) but these may only be fished for by licensed sportsmen and may not be sold.

The commercial freshwater fishery for the Short-finned Eel was established in 1965 and the catch in 1971-72 was 55,000 pounds.

Fish Varieties and Species

The following table lists the main Tasmanian commercial fish varieties and species with their code numbers. The code numbers are prepared on behalf of the Commonwealth/State Fisheries Conference by the Fisheries Division of the Department of Primary Industry.

Main Commercial Fish Varieties, Species and Code Numbers

Variety	Species	Code Number	Variety	Species	Code Number
Eels	<i>Anguilla australis</i>	035	Flathead	<i>Neoplatycephalus</i>	615
Whitebait	<i>occidentalis</i>	076		<i>fuscus</i>	616
Rainbow Trout	<i>Lovettia sealii</i>	101		<i>N. richardsoni</i>	617
Flounder	<i>Salmo gairdnerii</i>	151		<i>N. speculator</i>	621
	<i>Lophonectes gallus</i>	151		<i>Trudis bassensis</i>	625
	<i>Pseudorbombus</i>	151		<i>Leviprora</i>	625
Sole	<i>tenuirastrum</i>	151		<i>laevigata</i>	651
Cod	<i>Paraplagusia</i>	201	Shark	<i>Mustelus</i>	655
	<i>unicolour</i>	201		<i>antarcticus</i>	655
Tuna	<i>Physiculus</i>	301		<i>Galeorhinus</i>	712
	<i>barbatus</i>	301	Garfish	<i>australis</i>	780
	<i>Thunnus thynnus</i>	303		<i>Hemirhamphus</i>	831
	<i>maccoyii</i>	315		<i>melanocir</i>	832
	<i>T. alalunga germonis</i>	315	Southern Rock Lobster	<i>Jasus lalandei</i>	835
	<i>Katsuwonus</i>	334		<i>Ostrea angasi</i>	836
Mackerel	<i>pelamis</i>	335	Oyster	<i>Crassostrea gigas</i>	837
Barracouta (Snoek)	<i>Auxis thazard</i>	351		<i>Pecten</i>	845
	<i>Leionura atum</i>	351	Scallop	<i>meridionalis</i>	846
Mullet	<i>Mugil cephalus</i>	370		<i>Equichlamys</i>	
	<i>Aldrichetta</i>	401		<i>bifrons</i>	
Trevally	<i>forsteri</i>	490		<i>Mimachlamys</i>	
	<i>Usacaranx</i>	535		<i>asperimus</i>	
Salmon	<i>nobilis</i>	536	Abalone	<i>Notobalotis ruber</i>	
Trumpeter	<i>Arripis trutta</i>			<i>Schismotis</i>	
	<i>Latris lineatus</i>			<i>laevigata</i>	
	<i>Latridopsis</i>				
	<i>forsteri</i>				

Fisheries Statistics

Source of Data and Method of Presentation

Statistics presented in this section have been supplied principally by the Sea Fisheries Division of the State Department of Agriculture. In the preparation of fisheries production statistics, the quantities are generally in terms of the form in which the catch is taken from the water. For example, the statistics of fish production are in terms of 'estimated live weight' which is calculated from landed weights by using conversion factors for the various species. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise-reduced condition. Crustaceans are reported on a 'whole weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis.

The actual edible yield varies, depending on types of fish, and methods of preparation. Barracouta yield about 51 per cent of liveweight when filleted, and shark about 60 per cent when headed and gutted. The edible flesh in molluscs represents only a small portion of the in-shell weight. The conversion factor for scallops is 1 lb flesh equals 5 lb in-shell weight and for abalone 1 lb flesh equals 2½ lb in-shell weight.

The catch is generally defined as that landed in Tasmanian ports, regardless of whether it is caught in Tasmanian waters or not, or whether it is caught by Tasmanian fishermen or not. A quantity of shark and Southern Rock Lobster taken by Victorian based fishermen in Tasmanian waters, but landed in Victoria, is included in the Victorian catch and excluded from Tasmanian figures, on the basis that the catch influences the Victorian rather than the Tasmanian economy.

Details of production refer only to recorded commercial production. In view of the importance of amateur fishermen in certain types of fishing, details shown cannot be taken as representing the whole catch. In addition, it is likely that the figures shown understate, to some extent, the full commercial catch since no information is available on fish taken for sale by persons not licensed as professional fishermen.

Persons Engaged in Fisheries

In the following table, which gives details collected in the population Censuses of 1961 and 1966 (at 30 June), the numbers of persons whose industry was classified to 'fishing and whaling' are shown and compared with the numbers engaged in all primary industries and in the total work force. The Australian and Tasmanian figures show that fishing is a relatively more important industry in Tasmania.

Australia and Tasmania: Persons Engaged in Fisheries
Population Censuses, 1961 and 1966

Particulars	Australia		Tasmania	
	1961	1966	1961	1966
Persons Engaged in—				
Fishing and Whaling '000	8.3	8.0	0.6	0.6
All Primary Industries '000	513.3	456.7	20.8	17.2
Total Work Force '000	4,225.1	4,856.4	130.9	147.3
Persons Engaged in Fishing and Whaling as a Proportion of—				
All Primary Industries per cent	1.6	1.8	2.8	3.4
Total Work Force per cent	0.2	0.2	0.4	0.4

Employment, Boats

Persons Engaged and Boats

The following table shows details of persons and boats employed in the taking of fish, crustaceans and edible molluscs. The data are derived from boat registration records of the State Sea Fisheries Division. The term 'number of crew' refers to the usual number of crew on registered fishing vessels and lacks the precision of the concept 'average number employed' used in statistics of other production sectors. Many of the fishermen operate part-time only, and may normally follow other occupations:

Fisheries: Number and Value of Boats, Number of Crew, etc.

Length of Boat (Feet)	1969			1970		
	Boats		Crew	Boats		Crew
	Number	Value	Number	Number	Value	Number
Under 20	87	\$'000	140	78	\$'000	119
20 and under 30	113	164	162	96	138	135
30 and under 40	139	350	265	136	336	259
40 and under 50	138	1,084	324	140	1,154	328
50 and under 60	62	2,121	182	61	2,280	182
60 and under 70	7	1,635	21	12	1,569	42
70 and under 85	4	289	14	2	555	8
85 and Over	3	198	15	4	139	17
Total	553	110	1,123	529	6,318	1,090

The boats used for the estuarine fisheries are mostly small vessels, propelled by diesel or petrol motors of low power. The offshore vessels range in length from 30 feet to over 100 feet and almost invariably are powered by diesel engines. Refrigeration of the catch at sea is becoming more common, the four main types being ice box, ice cooling, brine tanks and dry refrigeration; almost all boats have wells or deck tanks which serve to keep the catch alive, e.g. Crayfish or abalone.

The next table indicates the high proportion of relatively new boats operating in the fishing industry and analyses the 553 boats registered in 1969 according to age:

Number of Boats Classified According to Length and Age, 1969

Length of Boat (Feet)	When Constructed						
	Before 1930	1930 to 1939	1940 to 1949	1950 to 1954	1955 to 1959	1960 to 1964	1965 to 1969
Under 20 .. ..	..	1	7	5	11	11	52
20 and under 30	4	4	29	25	15	21	15
30 and under 40	16	15	21	18	20	27	22
40 and under 50	16	6	28	8	12	19	49
50 and under 60	4	4	12	3	6	13	20
60 and under 70 .. ..	..	1	1	..	1	1	3
70 and under 85	2	..	..	..	1	1	..
85 and Over	2	..	1	..	..	..	..
Total	44	31	99	59	66	93	161

Production

Fish Catch

The following table shows the production of the main types of fish caught in Tasmania for a five-year period. The fish types appear in the table without any further description to identify the particular species but a specification of the more common types appears as an introduction to this section.

Fish: Production by Type
(*000 lb Estimated Live Weight) (a)

Type	1966-67	1967-68	1968-69	1969-70	1970-71
Mullet	32	20	48	31	22
Tuna	32	77	43	11	18
Shark	1,003	1,510	2,088	1,767	1,748
Australian Salmon	942	757	383	148	443
Flathead	119	101	64	24	152
Barracouta (Snook)	2,286	3,581	3,089	3,480	1,346
Whitebait	95	56	82	98	33
Cod	15	10	12	22	13
Flounder	29	29	41	39	42
Trevally	9	8	14	22	31
Trumpeter	52	33	39	43	46
Garfish	13	26	28	51	60
Other	199	301	178	142	322
Total	4,826	6,509	6,108	5,878	4,276

(a) Estimated live weights are calculated from landed weights by conversion factors since quantities of fish are reported frequently in a gutted, headed and gutted, or otherwise reduced condition (e.g. barracouta and shark).

Crustaceans and Molluscs

In terms of value, the most important item in the Tasmanian catch is Southern Rock Lobster (Crayfish) and the next table shows details of production of this crustacean and also of molluscs:

Crustaceans and Molluscs: Production by Type

Type	1966-67	1967-68	1968-69	1969-70	1970-71
CRUSTACEANS (*000 lb Whole Weight)					
Southern Rock Lobster ..	4,290	3,862	3,747	3,065	3,542
MOLLUSCS (*000 lb In-shell Weight)					
Squid .. .. .	..	..	..	1	7
Oysters .. .. .	..	n.p.	39	69	71
Scallops	753	496	276	111	..
Abalone	4,407	6,142	4,648	5,749	7,689
Total	5,160	n.p.	4,963	5,930	7,767

Comparison with Other States

Southern Rock Lobster: In 1970-71 Tasmania ranked third as a producer of Southern Rock Lobster, the two leading States being W.A. with 62 per cent of the Australian total and S.A. with 17 per cent; the Tasmanian catch was 12 per cent of the total.

Abalone: The comparatively new Tasmanian abalone fishery in 1970-71 accounted for almost 44 per cent of Australian production of 17,627,000 lb (in the shell) of abalone. Victoria and South Australia ranked second and third with 29 per cent and 14 per cent respectively.

Scallops: For many years Tasmania was the only State of the Commonwealth with a commercial scallop fishery; in 1955-56 Tasmania was joined by Queensland, but continued to retain its dominant position in the industry. In 1963, however, Tasmanian fishermen started a Victorian fishery in beds known to exist in Port Phillip Bay and the new site in its first year (1963-64) produced more than twice the quantity of the Tasmanian fishery. No scallops were dredged from Tasmanian waters in 1970-71. Of the Australian total of 17,945,000 lb, Victoria contributed 39 per cent and Western Australia and Queensland 22 per cent each. Limited catches of scallops from Tasmanian waters were reported from early May 1972.

Catch Landed at Fishing Ports

Distribution of Fish Landed

The table that follows shows the proportion of fish and Southern Rock Lobster landed at Tasmanian fishing ports. The information relates to port of landing only, and not to the area in which the catch was made.

**Proportion of Total Fish and Southern Rock Lobster Landed at Each Port, 1970-71
(Per Cent)**

Port	Fish	Southern Rock Lobster	Port	Fish	Southern Rock Lobster
Derwent and Channel—			Bass Strait and Islands—		
Dover	4.4	6.8	Bridport	6.7	5.3
Gordon	0.5	..	Currie	0.4	2.3
Hobart	6.4	6.3	Lady Barron	2.4	7.3
Kettering	23.2	3.5	Port Sorell	5.1	0.5
Margate	2.8	7.4	Smithton .. .. .	..	2.2
Southport	0.4	0.5	Stanley	14.5	10.6
Woodbridge .. .. .	..	1.0	'Tamar' (a)	1.4	0.1
			Wynyard	10.5	0.8
Total	37.7	25.5	Total	41.0	29.1
East Coast & Peninsula—			West Coast—		
Bicheno	2.3	5.0			
Coles Bay	0.2	0.2	Strahan	0.5	12.7
St Helens	3.7	12.5			
Triabunna	5.5	8.0			
Dunalley	3.3	4.6			
Port Arthur	5.8	2.4			
Total	20.8	32.7	Total Tasmania	100.0	100.0

(a) Launceston, Beauty Point and other Tamar ports.

The next table shows the proportion of the total Southern Rock Lobster catch landed each month:

**Proportion of Southern Rock Lobster Landed in Each Month
(Per Cent)**

Month	1970	1971	Month	1970	1971
January	17.2	19.4	July	3.9	4.4
February	12.3	11.7	August	3.5	2.5
March	9.7	10.7	September (a)	1.6	1.6
April	3.6	4.2	October (a)	0.9	0.3
May	2.3	1.4	November	26.0	19.4
June	3.3	3.2	December	15.7	21.2

(a) Closed season in most waters during these months.

Value of Production—Fishing

The table that follows gives details of gross and local values of edible fishery products. The following definitions apply:

Gross Value of Production is the value placed on recorded production at the wholesale price realised at the principal markets.

Local Value (i.e. recorded production valued at the place of production) is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

Fisheries: Gross and Local Value of Production
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Gross Value of Production—					
Fish (a)	514	r 609	676	648	641
Crustaceans (Southern Rock Lobster)	2,426	2,776	3,474	2,437	3,507
Molluscs (b)	714	r 1,088	714	958	1,836
Total	3,653	4,473	4,864	4,043	5,984
Less Marketing Costs	630	805	764	700	868
Local Value of Production	3,024	3,668	4,100	3,343	5,116

(a) Includes value of seaweed harvested for production of alginate.

(b) Value of oysters included with fish until 1966-67 for confidentiality reasons; included with molluscs thereafter.

In other production sectors, local value is further reduced by deducting the value of materials used, to arrive at the net value of production. For the fishing sector, this is not possible since data on materials used in the course of production are not available. (Petrol and diesel fuel are examples of such materials.)

Marketing

In general terms, it can be said that production of fish, crustaceans and molluscs from the Tasmanian fisheries far exceeds the demand generated by the relatively small State population; it follows, therefore, that the industry is largely dependent on its ability to find export markets, both interstate and overseas, and this raises the problem of preserving a perishable product. In the past, shark and Snoek (Barracouta) when caught in large quantities, were sold to orchardists as manure simply because there was no other way of disposing of the surplus. The lifting of an export ban on frozen Snoek is expected to result in a substantial amount being sold to Japan. Cold storage facilities are now generally available and in addition, canneries offer an alternative method of preservation, the principal cannery being located at Margate in the south. The problem of preservation has three aspects: (i) at sea; (ii) on shore; and (iii) in transit to market. Of the 553 registered fishing boats in 1969, 138 boats (i.e. 25 per cent) had refrigeration plant of various kinds. In addition, some catches, e.g. Southern Rock Lobster, can be kept alive in boat wells. Cold storage facilities ashore serve to hold the catch before its despatch to interstate and overseas markets while actual exports are carried by air, by refrigerated trailer on the roll-on roll-off ferries and in the refrigeration chambers of conventional ships.

The following table shows the value of exports and imports of fishery products. The fact that Tasmania has an exportable surplus, yet nevertheless imports some fishery products, is chiefly due to differences in type; the imported varieties include canned sardines, anchovies, oysters, crabs, etc. together with frozen, salted or smoked varieties of European, New Zealand or South African origin. Tasmania has nine fish processors registered as exporters.

Fishery Products: Value of Exports and Imports
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
EXPORTS					
Fish (a)—Overseas	1	5	4	13	7
Interstate	486	491	559	481	437
Southern Rock Lobster—					
Overseas	584	570	974	1,071	1,108
Interstate	1,104	922	1,191	1,048	966
Molluscs—Overseas	214	588	594	751	1,061
Interstate	129	131	190	197	314
All Types—Overseas	799	1,163	1,572	1,835	2,176
Interstate	1,719	1,544	1,940	1,726	1,716
Total	2,516	2,708	3,512	3,561	3,892
IMPORTS					
Fish—					
Fresh and Frozen—					
Overseas	176	136	174	140	187
Interstate	84	106	114	78	67
Preserved in Tins—					
Overseas	110	138	115	125	133
Interstate	364	242	50	36	67
Other (b)—Overseas	1	7	11	10	34
Interstate	11	7	8	2	4
All Types—Overseas	287	280	301	276	354
Interstate	459	355	172	116	137
Total	746	634	473	392	491

(a) Includes fresh and frozen fish and fish preserved in tins.

(b) Includes smoked, salted and potted fish, extracts and caviare.

New Projects

Proposed Fish-Meal Industry

In December 1971 the Minister for Industrial Development announced that two United States businessmen proposed to establish a fish-meal plant at Triabunna on Tasmania's east coast. The industry would utilise schools of deep-sea fish, particularly Jack Mackerel, which are thought to be abundant in waters off the east coast of Tasmania. Fishing would be performed by purse seining and mid-water trawling from two modern 300-ton fishing boats. The industry would provide a substantial level of employment in the processing factory and on the fishing boats. However, local fishermen have expressed concern about two aspects of the proposed scheme: (i) depletion of fish stocks, particularly commercial varieties; and (ii) the ability of local fishermen to participate in the venture. In June 1972 a further development was the Commonwealth Government announcement that \$91,712 would be spent on investigations into the development of purse seine fishing techniques for Jack Mackerel in waters off the south-east Australian coast. The study will include: (i) an investigation into the number, movements and behaviour of the Jack Mackerel schools; (ii) an assessment of the economic potential of a processing industry based on the species and whether such an industry would be a viable long-term proposition; and (iii) the determination of an optimal size vessel for purse seine fishing.

Squid

An account of investigation into a potential squid fishery can be found in a later section of this Chapter.

Sea Fisheries Division
(Department of Agriculture)

Administration

The Division of Sea Fisheries comes under the responsibility of the Minister for Agriculture and Fisheries. For purposes of administration the Division is under the control of the Director of Agriculture.

Under the *Fisheries Act* 1959, provision is made for a Sea Fisheries Advisory Board to advise the Minister on fisheries except in respect of salmon-trout, eels and whitebait which come under the control of the Inland Fisheries Commission. The Board consists of nine members appointed by the Governor as follows: the Director of Agriculture (or his representative); the Commissioner of Police (or his representative); a representative of Societies interested in the science of Zoology; two representatives of processors; and four representatives of professional fishermen.

Fisheries Control

Patrol and inspection duties are carried out by Division officers throughout the State. As well as Tasmanian fisheries, certain Commonwealth waters and the Tasmanian section of the continental shelf are patrolled in addition to the enforcement of the provisions of the Australia-Japan Fishing Agreement. For these purposes, the Division owns five high-powered patrol vessels and two four-wheel drive vehicles and, when necessary, makes use of aircraft. In 1970-71 58 offences were reported of which 52 cases went before the courts, resulting in total fines of \$3,077.

Regular inspections are made of the freezer holds of Japanese fishing vessels for the purpose of noting such details as fish species, size of catch and equipment.

Challenger: A new Fisheries Research Division vessel, *Challenger*, was completed in June 1972. *Challenger* has been designed for deep-sea and long-range research and patrol work. Dimensions of the vessel are: (i) length, 69 feet 6 inches; (ii) maximum width, 19 feet; (iii) draught, eight feet. The vessel can travel at approximately 12 knots and also carries a faster 17-foot speed-boat for close inshore and patrol work. A permanent crew of three men is carried while accommodation is provided for a further six persons. *Challenger* is equipped for both patrol and research work. Modern equipment includes radar, a high frequency echo-sounder, long-range sonar, a long-range radio and radio-direction finder. These features are vital for navigation, location of fish schools, likely fish beds and in patrol and enforcement work. The auxiliary launch is also equipped with wireless so that radio communication can be maintained with the mother ship. A research laboratory has been included in the *Challenger* to enable scientists to carry out research at sea. The boat is also equipped with live fish and refrigerated storage facilities. An important task for the new vessel will be the investigation of the efficiency and effect of new fishing techniques. *Challenger* is fitted-out with winches and haulders which enable her to handle scallop, crab, Southern Rock Lobster (Crayfish) and deep-sea line fishing tackle. Gear will also be included to allow bottom and mid-water trawling from the *Challenger*. The first task for *Challenger* was a comprehensive survey of Bass Strait for new scallop beds.

Research

The Division has undertaken numerous research projects directed towards increasing the efficiency of the Tasmanian fishing industry and developing conservation measures for various species of fish. The Division's involvement in the investigation of a Tasmanian Squid fishery is outlined in the next section 'Squid Fishery'.

Squid Fishery

(Source: Sea Fisheries Division)

One of the latest developments in the Tasmanian fishing industry has been the investigation of the potential of a squid fishery. Squid, which are members of the Cephalopods, a class of the animal family Mollusca, have long been regarded as a delicacy in Mediterranean and Asian countries. In recent times a small, but potentially important, market has developed in Australia. Currently about 400,000 lb of squid is caught and sold on the domestic market. However, the principal expected outlet for a squid industry is the large Japanese market. (Currently the total Japanese annual catch is about 700,000 tons.)

Research and Investigation

The first indication that squid occurred off the Tasmanian coast in sufficient quantity to justify exploitation came when a Japanese fishing company commissioned a survey of marine resources in waters adjacent to Tasmania. This survey took place in the 1969-70 summer and the Sea Fisheries Division undertook further investigation into the State's squid resources. The *Penghana*, the Sea Fisheries Division research vessel, was used to catch squid and studies were made of specimens caught. In late 1971 and early 1972 the same Japanese company sent the *Akistu Maru No. 7* to evaluate the potential of the squid fishery in Tasmanian waters. The 458-ton vessel was equipped with 20 automatic squid jigging machines; each machine had two powered reels with 30 jigs. Lighting for the squid fishing was provided from 12 1,000-watt globes. Large schools of squid were located on the fish finder and several heavy catches were made.

After completion of the second brief survey the results were made available to the Sea Fisheries Division and two of the squid machines were left to promote research into and development of the fishery. In April 1972 one of the machines was installed on the *Penghana* and three methods of jigging for squid were demonstrated to local fishermen. Night demonstration trips were made from Dover, Margate, Port Arthur and Triabunna. The response by fishermen was good; however, actual catches were disappointing due to the time of year. The reason for demonstrating the equipment during the off-season months was to allow interested fishermen sufficient time to equip their boats for the coming squid season (October to March).

Method of Catching

Squid are normally taken at night on squid jigs attached to lines. The jigs are illuminated from the fishing boat by a battery of powerful lights. Nets can also be used to take squid. The three techniques which appear most likely to succeed in Tasmanian waters are: (i) hand lines; (ii) automatic lines; and (iii) towed lines. The first two methods are basically night fishing techniques and require lights.

Handlines: These are used at night and lighting is required. A normal line comprises five squid jigs placed about 16 inches apart on strong nylon line and a four to six ounce sinker for weight. The line is allowed to sink to the required depth and then raised to the surface using short jerky vertical movements. Most of the squid strike near the surface. Good catches can be made using this relatively simple equipment from small boats.

Automatic Lines: A machine, capable of handling a line with 30 squid lures, has been developed in Japan. (Two machines were left by the Japanese research vessel for use by the State's Sea Fisheries Division and interested fishermen.) This method is also a night technique for catching squid. The lines are lowered and raised mechanically, and the squid fall automatically from the lures. From the hooks the squid fall into a catching container and then slide into storage baskets or onto a conveyor system for transfer to storage facilities. One man can simultaneously operate several of these machines.

Towed Lines: This method was developed by officers of the Victorian Fisheries and Wildlife Department. Lines with 20 lures attached are towed behind a boat in the early daylight hours. This method can be carried on in conjunction with Snoek (Barracouta) fishing. A principal advantage of this technique is that the cost of lighting equipment is avoided.

Commercial Potential

Research and observations by local fishermen have indicated: (i) the best period for taking squid may be from October to March; and (ii) squid exist in waters adjacent to Tasmania in sufficient quantity to allow long-term exploitation. During the research work and squid fishing trips many species of squid have been caught. However, only two species are, at present, of commercial significance: (i) Gould's Squid *Nototodarus gouldi*, a short-finned, long and narrow squid; and (ii) Southern Calamary, *Sepioteuthis australis*, a more robust long-finned squid. Gould's Squid, which has the greater market potential of the two species, is more abundant in Tasmanian waters than Southern Calamary.

VALUE OF PRODUCTION PRIMARY AND SECONDARY INDUSTRIES

Introduction

The value of production for Tasmania and the other Australian States was computed in accordance with the decisions reached at the Conferences of Australian Statisticians, and principally at the Conference held in 1935. The values shown in the tables that follow refer only to the production of primary industries and factories and exclude the building and construction industry, those industrial establishments not classified as factories, and certain agricultural and farmyard operations on areas of less than one acre.

New Value Concepts

The value series allowing direct comparison of primary and secondary industries ends at 1967-68. From 1968-69 new value concepts were introduced in the mining and manufacturing sectors. The new value concepts, while analogous to those described in the following section, are nevertheless sufficiently different to prevent direct comparisons being made for years later than 1967-68. However, in the special appendix (Integrated Economic Censuses) to Chapter 10, series will be found which combine and compare value data for mining, manufacturing, wholesale and retail establishments.

Primary Industries

The following primary industries are those for which data are separately compiled in the value of production tables:

Primary, Rural

Agriculture
Pastoral
Dairying
Poultry
Bee-farming

Primary, Non-Rural

Hunting
Forestry
Fishing
Mining and Quarrying

New value concepts were introduced into mining and quarrying statistics from 1968-69 and direct comparison of this industry with other primary industries cannot be made for 1968-69 and following years.

In respect of these primary industries, the following uniform definitions are employed:

- (i) *Gross Value of Production* is the value placed on recorded production at the wholesale prices realised at the principal markets. In cases where primary products are consumed at the place of production, or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets. Subsidies and bounties paid by the State and Commonwealth Governments to primary industries are, in general, included in gross value of production.
- (ii) *Local Value* (i.e. recorded production valued at the place of production) is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission and other charges incidental thereto.

- (iii) *Net Value of Production* represents local value *less* value of materials used in the process of production. Materials used in the process of production include seed, power, petrol and oils, feed consumed by farm stock, manures, dips, sprays and other costs of a similar nature. No deductions from local values have been made for depreciation, certain maintenance charges, wages, interest, or some other costs normally incurred.

Secondary Industries (Factories)

New value concepts were introduced into manufacturing statistics from 1968-69 and direct comparison of secondary industries with primary industries cannot be made for 1968-69 and following years.

To place a value upon the production of factories, the following definitions were employed in the series which ended 1967-68:

- (i) *Value of Output* was the value of goods manufactured and included the amount received for repair work, work done on commission, etc. The basis was the selling value *at the factory*, exclusive of all delivery charges.
- (ii) *Value of Production* was the value of output *less* the value (at the factory) of the materials used, containers and packing, power, fuel and light used, tools replaced, and materials used in repairs to plant (but not depreciation charges), insurance, pay-roll tax, income tax, advertising, interest on borrowed money, bad debts and other sundry charges.

In examining values for primary and secondary production before 1968-69, it will be seen that *gross value of production* is a concept confined to primary industries; that *local value* for primary industries is broadly analogous in concept with *value of output* for factories; that *net value of production* for primary industries is comparable with *value of production* for factories, since both are derived by deducting the value of materials used in the process of production, a procedure which eliminates possible duplication of values.

Comparing or Combining Industries

In comparing or combining production values for any of the previous industries, it is logically necessary to use only *net value of production* (primary) and *value of production* (secondary); both *gross* and *local* values will be found unsatisfactory because some degree of duplication will be involved. An obvious example of duplication can occur when the raw material for a factory process is the final product of a farm (e.g. the value of hops is contained in the *gross value of agriculture* and also in the *value of output of factories*, specifically of breweries). The primary-secondary relationship not only involves primary products becoming raw materials for factories but also factory products (e.g. fertilisers) becoming essential materials for primary industries. Less obvious, perhaps, is the fact that one rural industry may supply the 'raw material' for another rural industry (e.g. hay from *agriculture* consumed by livestock in the *pastoral* and *dairying* industries).

In the following sections, *gross* and *local* values are shown for the various primary industries; the basic reason for publication is not to facilitate comparison and combination of these values for individual industries, or groups of industries, but rather to show how *net value of production* is computed.

In accordance with the previous definitions, net value of production for primary industries is computed by deducting the cost of materials used in the process of production from the local value. Details of such costs are not available for: (i) bee-farming; (ii) hunting; (iii) forestry; and (iv) fishing. In the case of these industries, only local value can be computed.

Sources of Information—Value of Production

Primary Production, Rural

The data used are those concerning quantity of primary production (supplied principally by farmers, etc.) together with information collected from various sources on prices realised in the principal markets for different products, the costs of marketing these products and the costs of certain materials used in their production. Price and cost data are obtained from statutory authorities (e.g. Dairy Produce Equalisation Committee), market reports, special returns collected from wholesalers, brokers, auctioneers, etc., and from overseas and interstate trade statistics.

Primary Production, Non-Rural

(i) *Hunting*: Principal data are derived from export of skins and information on the annual mutton bird catch.

(ii) *Forestry*: Principal value data are available from the annual factory census, since forestry products are the basic raw material for sawmills, newsprint and paper mills, etc.

(iii) *Fishing*: Quantity data are supplied by fishermen and prices are collected from fish wholesalers and agents.

(iv) *Mining and Quarrying*: Principal value data are supplied by mine operators in the annual mining census.

Secondary Production

Factories: Both quantity and value data are supplied by factories in the annual factory census. Further details will be found in Chapter 9, 'Manufacturing, Electricity and Gas'.

Period Covered

Secondary: Year ended 30 June.

Primary, Rural: Generally the year ended 30 June but includes current season's production harvested after 30 June, e.g. potatoes.

Primary, Non-Rural: For mining and quarrying a year ended 31 December up to 1968, then a year ended 30 June from 1968-69; other industries, year ended 30 June.

GROSS VALUE OF PRODUCTION

Rural Industries

Rural industries, for value of production purposes, comprise: (i) agriculture; (ii) pastoral; (iii) dairying; (iv) poultry; and (v) bee-farming. These industries have no relation, however, to any classification of individual rural holdings on an industry basis; a single holding would usually produce several products, some attributable to one and some to another such industry (e.g. wheat and oats which would be counted in agriculture, wool in pastoral and milk in dairying). The industries represent merely a convenient grouping of the aggregate production of individual products.

Agriculture

The following table shows gross values, for a five-year period, of the groups of crops which comprise the agricultural industry:

Value of Production

Gross Value of Production: Agriculture
(\$'000)

Crop	1966-67	1967-68	1968-69	1969-70	1970-71
Cereals for Grain	2,497	2,789	2,115	2,142	2,275
Hay	7,145	6,391	7,850	4,217	5,865
Green Feed	1,202	1,165	1,663	1,018	900
Field Peas	443	354	366	470	538
Other Stock Feed	4,831	5,651	4,324	3,049	2,298
Grass Seed	147	112	246	178	285
Industrial Crops	1,581	2,316	2,688	2,152	1,820
Vegetables for Human Consumption	9,390	9,461	8,128	9,723	8,538
Orchard Fruit	16,091	17,825	15,751	17,071	15,689
Small Fruit	797	790	912	881	991
Other Crops	803	456	555	921	950
Total	44,925	47,309	44,599	41,824	40,148

The next table shows quantity and value details for the main items comprising the agricultural industry. Also included in the table is the average value per unit.

Gross Value of Production: Agriculture, 1970-71

Crop	Unit of Quantity	Production	Gross Value	
			Per Unit	Total
			\$	\$'000
Cereals for Grain—				
Barley	bushels	1,312,310	1.61	1,528
Oats	bushels	486,129	0.81	395
Wheat	bushels	282,590	1.24	350
Total Cereals for Grain .. .. .	..	..	..	(a) 2,275
Hay	tons	440,693	13.31	5,865
Green Feed .. .. .	..	..	..	900
Field Peas and Beans—				
Blue Peas	bushels	169,302	2.72	461
Grey and Other Field Peas	bushels	33,483	2.31	77
Horse Beans	bushels	14,657	2.62	38
Total Field Peas and Beans .. .. .	..	..	..	577
Other Stock Feed—				
Turnips (Swede and White) .. .. .	..	n.a.	n.a.	2,259
Other .. .. .	..	..	..	..
Total Other Stock Feed .. .. .	..	..	..	2,259
Grass Seed—				
Clover	cwt	1,705	46.26	80
Other	cwt	8,908	22.98	205
Total Grass Seed	cwt	10,613	26.81	285
Industrial Crops—				
Hops (Dry Weight)	'000 lb	2,375	766.44	1,820
Mustard	'000 lb	..	..	..
Total Industrial Crops .. .. .	..	2,375	..	1,820

Gross Value of Production: Agriculture, 1970-71—continued

Crop	Unit of Quantity	Production	Gross Value	
			Per Unit	Total
			\$	\$'000
Vegetables for Human Consumption—				
Beans, French and Runner	'000 lb	11,671	54.42	635
Peas, Green (Ex-shell)	'000 lb	32,847	54.01	1,774
Potatoes	tons	71,444	42.18	3,013
Turnips	tons	4,673	110.97	519
Total Vegetables for Human Consumption ..	..	..	..	(a) 8,538
Orchard Fruit—				
Apples	bushels	7,373,000	1.97	(b) 14,489
Apricots	bushels	26,129	3.05	80
Pears	bushels	396,651	2.74	(b) 1,088
Total Orchard Fruit .. .. .	..	..	..	(a) 15,689
Small Fruit—				
Currants	'000 lb	2,237	148.44	332
Loganberries	'000 lb	506	151.04	76
Raspberries	'000 lb	2,955	164.68	487
Total Small Fruit .. .. .	..	..	..	(a) 991
All Other Crops .. .. .	..	..	..	950
Total Crops .. .. .	..	..	..	40,148

(a) Includes other crops not specified in table.

(b) Includes Government Stabilisation Scheme Subsidy of \$1,663,889 distributed between Apples and Pears.

Average Unit Gross Values

In the next table, average unit gross values for the principal crops are shown for a five-year period. The unit values have been calculated for the principal agricultural products by dividing the total quantity produced into the total gross value of production for each unit. They therefore represent weighted average 'prices' of the product in all markets (including the farm itself where quantities are retained for farm use) and indicate trends rather than prices actually paid to farmers.

Average Unit Gross Value of Principal Crops
(\$)

Crop	Unit of Quantity	1966-67	1967-68	1968-69	1969-70	1970-71
Cereals for Grain—						
Barley	bush	1.44	1.49	1.29	1.19	1.16
Oats	bush	0.88	1.00	0.87	0.80	0.81
Wheat	bush	1.43	1.46	1.14	1.34	1.24
Hay	ton	16.35	20.68	15.88	11.67	13.31
Field Peas and Beans—						
Blue Peas	bush	2.96	2.58	2.61	2.51	2.72
Grey and Other Peas	bush	2.16	3.14	2.87	2.80	2.31
Horse Beans	bush	3.14	3.20	3.76	4.35	2.62
Grass Seed—						
Clover	cwt	39.87	46.29	43.65	48.00	46.26
Other	cwt	10.97	18.83	15.94	16.98	22.98

Average Unit Gross Value of Principal Crops—continued
(\$)

Crop	Unit of Quantity	1966-67	1967-68	1968-69	1969-70	1970-71
Industrial Crops—						
Hops (Dry Weight) ..	lb	0.75	0.77	0.77	0.77	0.77
Mustard	lb	0.10	0.11	0.11	0.11	..
Vegetables for Human Consumption—						
Beans, French and Runner	'000 lb	70.94	69.72	53.71	60.31	54.42
Peas, Green (Ex-shell) ..	'000 lb	48.91	53.14	50.41	45.12	54.01
Potatoes	ton	54.56	48.30	29.38	46.29	42.18
Turnips	ton	85.57	85.66	93.15	99.89	110.97
Orchard Fruit—						
Apples	bush	2.37	2.10	2.03	2.10	1.97
Apricots	bush	3.60	3.23	3.44	3.83	3.05
Cherries	bush	6.51	7.33	6.92	6.95	5.85
Nectarines	bush	5.78	4.60	5.22	6.00	5.64
Peaches	bush	4.38	5.03	5.25	6.10	5.46
Pears	bush	2.42	2.08	2.54	2.78	2.74
Plums and Prunes	bush	1.62	1.49	1.79	1.66	2.15
Quinces	bush	1.20	0.90	1.06	1.18	1.20
Small Fruit—						
Blackberries	lb	0.09	0.12	0.12	0.13	0.12
Currants	lb	0.11	0.13	0.13	0.14	0.15
Gooseberries	lb	0.05	0.06	0.06	0.07	0.09
Loganberries	lb	0.10	0.13	0.13	0.15	0.15
Raspberries	lb	0.11	0.14	0.15	0.15	0.16
Strawberries	lb	0.18	0.23	0.23	0.29	0.32

Pastoral, Dairying, Poultry and Bee-farming

The products allocated to the pastoral, dairying, poultry and bee-farming industries for value of production purposes are:

- (i) *Pastoral Industry*: Comprises wool (including wool on skins), cattle slaughtered (other than culled dairy cows and bobby calves, i.e. calves slaughtered as soon as practicable after birth) and sheep and lambs slaughtered.
- (ii) *Dairying Industry*: Comprises milk, dairy cattle slaughtered (culled dairy cows and bobby calves) and pigs slaughtered.
- (iii) *Poultry Industry*: Comprises poultry slaughtered and eggs produced.
- (iv) *Bee-Farming Industry*: Comprises honey and beeswax produced.

The prime source of data on livestock slaughtered is information supplied by slaughtering establishments, supplemented by farmers' annual census returns giving details of slaughtering on farms. As sufficiently detailed information is not available on the types of cattle slaughtered to enable a precise dissection of total slaughtering to be made between the pastoral and dairying industries, data on the known culling rate in dairy herds are also used for this purpose.

The table that follows gives details of the gross value of production for each of the products of these industries:

Gross Value of Production: Pastoral, Dairying, Poultry and Bee-farming
(£'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Pastoral—					
Shorn Wool (including Crutchings) ..	19,393	14,498	19,713	16,827	13,986
Other Wool (a)	1,590	1,111	1,467	1,253	998
Sheep and Lambs Slaughtered (b) (c) ..	6,418	5,396	5,852	6,464	5,734
Cattle Slaughtered (b) (d)	10,139	9,816	12,086	13,987	13,741
Total	37,540	30,821	39,117	38,532	34,459
Dairying—					
Milk	19,956	19,828	21,473	21,307	22,244
Cattle Slaughtered (d)	1,977	2,017	1,917	2,524	2,463
Pigs Slaughtered (b)	4,833	5,018	4,324	4,943	5,150
Total	26,766	26,862	27,713	28,774	29,858
Poultry—					
Eggs	4,270	4,229	4,854	4,652	4,495
Poultry Slaughtered	814	914	1,040	913	1,053
Total	5,083	5,143	5,894	5,566	5,548
Bee-farming—					
Honey	50	118	97	120	173
Beeswax	3	5	5	7	7
Total	53	123	102	127	180

(a) Dead, fellmongered and wool exported on skins.

(b) Includes adjustment for net exports of livestock.

(c) Excludes value of wool on skins.

(d) Culled dairy cows and bobby calves slaughtered are allocated to dairying; all other cattle slaughtered to pastoral.

Primary Industries

The following table brings together gross values of production for all primary industries for a five-year period:

Gross Value of Production: Primary Industries
(£ million)

Industry	1966-67	1967-68	1968-69	1969-70	1970-71
Agriculture	44.9	47.3	44.6	41.8	40.1
Pastoral	37.5	30.8	39.1	38.5	34.5
Dairying	26.8	26.9	27.7	28.8	29.9
Poultry	5.1	5.1	5.9	5.6	5.5
Bee-farming	0.1	0.1	0.1	0.1	0.2
Total Rural	114.4	110.3	117.4	114.8	110.2
Hunting	0.5	0.5	0.4	0.3	0.3
Forestry	16.6	15.5	16.0	18.9	17.1
Fishing	3.7	4.5	4.9	4.0	6.0
Total Non-Rural (excluding Mining)(a)	20.8	20.4	21.2	23.2	23.4
Total Primary (excluding Mining)(a)	135.2	130.7	138.7	138.1	133.6

(a) See earlier sections 'New Value Concepts' and 'Primary Industries' for an explanation of why mining has been deleted from this series.

NET VALUE OF PRODUCTION—ALL RECORDED INDUSTRIES

Definition

In the preliminary section dealing with definitions, it was emphasised that *gross values of production* are unsuitable for making comparisons or for combining individual industries or groups of industries. In fact, it is impossible to make a comparison between gross value of production for primary industries and for factories, since gross value of production is not collected for factories; the primary-secondary comparison (or combination) can only be made on the basis of *net value of production* (primary industries) and *value of production* (factories).

Net Value, 1970-71

The next table shows, in detail, the method whereby gross values (primary industries) are reduced to local values and then further reduced to net values:

Value of Production: All Primary Industries, 1970-71
(\$ million)

Industry	Gross Value of Production (Value at Principal Market)	Less Marketing Costs	Local Value (i.e. Production Valued at Place of Production)	Less Cost of Materials, Fuel, etc. Used	Net Value of Production
Rural—					
Agriculture	40.1	11.0	29.2	6.1	23.1
Pastoral	34.5	2.9	31.5	10.5	21.0
Dairying	29.9	1.6	28.2	4.7	23.5
Poultry	5.5	0.1	5.5	2.8	2.7
Bee-farming (a)	0.2	..	0.2	n.a.	0.2
Total Rural	110.2	15.6	94.6	24.1	70.5
Non-Rural (a)—					
Hunting	0.3	..	0.3	n.a.	0.3
Forestry	17.1	2.9	14.2	n.a.	14.2
Fishing	6.0	0.9	5.1	n.a.	5.1
Total Non-Rural (excluding Mining) (b) ..	23.4	3.8	19.6	n.a.	19.6
Total Primary (excluding Mining) (b) ..	133.6	19.4	114.2	24.1	90.1

(a) Gross and local values available but production costs not available.

(b) See earlier sections 'New Value Concepts' and 'Primary Industries' for an explanation of why mining has been deleted from this series.

Note: Reference is made to value definitions in the introduction to this section.

In the preceding table costs of materials, fuels, etc. used are only calculated for the agricultural, pastoral, dairying and poultry industries. The selected production costs exclude such items as depreciation charges, the cost of repair and maintenance to plant, equipment and buildings used in the industries, veterinary expenses, etc. However, estimates for certain major production cost items, such as stock feed, fertilisers, electric power, fuel, seed, sprays, etc. are prepared. Data for calculation of these selected costs are obtained from a variety of sources e.g. quantity information is based on data obtained from the annual farm census, merchants dealing with rural producers, manufacturers, etc., while unit costs are obtained from surveys, dealers' and manufacturers' price lists, etc.

For bee-farming and the non-rural sector (excluding mining) it is not possible to prepare similar production cost estimates since insufficient information is available on the type and quantity of materials and fuels used.

Cost of Materials, Fuel, etc. Used in Rural Industry

The following table has been compiled to show details of those costs taken into account in rural industry:

Rural Industry: Recorded Costs, 1970-71
('\$000)

Cost Item	Agriculture	Pastoral	Dairying	Poultry	Bee-farming (a)	Total
Seed	1,199	287	123	..	..	1,609
Fertilisers	1,460	2,606	1,498	..	..	5,564
Spraying, Sheep-Dip ..	1,380	166	41	..	..	1,587
Stock Feed	57	6,566	2,228	2,630	..	11,480
Water for Irrigation ..	127	62	62	..	..	252
Power, Fuel and Light ..	1,871	831	759	139	..	3,599
Total	6,095	10,518	4,710	2,769	..	24,091

(a) Costs not available for bee-farming.

Net Value—Summary

The next table summarises, for a five-year period, the net value of production for all recorded industries:

Net Value of Production: All Recorded Industries
(\$ million)

Industry	1966-67	1967-68	1968-69	1969-70	1970-71
Primary, Rural—					
Agriculture	29.4	29.3	28.0	24.7	23.1
Pastoral	21.6	12.5	22.4	24.2	21.0
Dairying	19.2	18.2	20.3	22.4	23.5
Poultry	2.8	2.7	3.4	2.7	2.7
Bee-farming (a) .. ..	..	0.1	0.1	0.1	0.2
Total Rural	72.9	62.7	74.1	74.2	70.5
Primary, Non-Rural—					
Hunting (a)	0.5	0.4	0.3	0.3	0.3
Forestry (a)	14.3	13.4	13.5	16.1	14.2
Fishing (a)	3.0	3.7	4.1	3.3	5.1
Mining and Quarrying	25.8	25.2	(b)	(b)	(b)
Total Non-Rural	43.7	42.7	(c) 18.0	(c) 19.8	(c) 19.6
Total Primary	116.6	105.5	(c) 92.1	(c) 93.9	(c) 90.1
Secondary—					
Factories	194.6	198.0	(b)	(b)	(b)
Total Industries	311.1	303.5	..	..	..

(a) Local value of production.

(b) See earlier sections 'New Value Concepts' 'Primary Industries' and 'Secondary Industries (Factories)' for an explanation of why mining and factories are not included in this series after 1967-68.

(c) Excludes 'Mining and Quarrying'; see note (b).

The next table compares the net values of production of the primary and secondary industries and shows the dominance of secondary industry:

Net Value of Production, Selected Years: Primary-Secondary Industry Comparison

Year	Primary		Secondary		Total Net Value
	Net Value	Proportion of Total	Net Value	Proportion of Total	
	\$'000	per cent	\$'000	per cent	\$'000
1950-51	66,947	57.6	49,229	42.4	116,176
1953-54	65,427	49.7	66,129	50.3	131,556
1956-57	79,181	44.9	97,365	55.1	176,546
1959-60	75,808	38.6	120,392	61.4	196,201
1967-68 (a)	105,470	34.8	198,019	65.2	303,489

(a) See introductory section headed 'New Value Concepts'.

Tasmania and Australia Compared

Some indicator other than comparison with previous years is needed. Probably the most significant measure is the comparison between the net values of production for all recorded Tasmanian industries and those for Australia as a whole.

Net Value of Production: Tasmania and Australia

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
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NET VALUE OF PRODUCTION: ALL RECORDED INDUSTRIES
(\$ million)

Tasmania	311.1	303.5	(a) 92.1	(a) 93.9	(a) 90.1
Australia	10,393.9	10,549.5	(a) 3,038.2	(a) 2,916.2	(a) 2,807.8

TASMANIAN PROPORTION OF AUSTRALIAN TOTAL
(per cent)

Primary, Rural—					
Agriculture	2.4	3.3	2.3	2.4	2.1
Pastoral	1.8	1.2	1.9	2.0	2.1
Dairying	5.2	4.9	5.4	5.4	5.4
Poultry	3.9	4.1	4.7	3.3	3.3
Bee-farming (b)	1.3	2.7	3.4	2.5	3.6
Total Rural	2.6	2.6	2.6	2.7	2.7
Primary, Non-Rural—					
Hunting (b)	4.0	4.2	3.2	2.5	3.2
Forestry (b)	13.2	12.2	12.0	14.0	11.1
Fishing (b)	6.8	6.8	7.0	5.8	7.0
Mining and Quarrying	5.0	4.4	(a)	(a)	(a)
Total Non-Rural	6.4	5.8	..	..	..
Total All Primary	3.3	3.4	..	..	..
Secondary—					
Factories	2.8	2.7	(a)	(a)	(a)
Total Industries	3.0	2.9	..	..	..

(a) Excludes mining and manufacturing sectors; see earlier sections 'New Value Concepts', 'Primary Industries' and 'Secondary Industries (Factories)'.

(b) Local value of production.

Chapter 9

MANUFACTURING, ELECTRICITY AND GAS

MANUFACTURING

Historical

The evolution of Tasmanian farming is described in continuous annual statistics from 1818 but the early records relating to factories are extremely meagre. While the early colonial statisticians had immediately put on record such fundamental measures as acreages, crop yields and livestock numbers, they were content, in the matter of factories, to merely classify and count the number of establishments. Some concept of early manufacturing activity can be derived from the following table which has been adapted from the *Statistical Returns of Van Diemen's Land, 1824 to 1839*:

Comparative Account of Manufactories and Trades in Van Diemen's Land

Description of Establishment	Number of Establishments		Description of Establishment	Number of Establishments	
	1824	1838		1824	1838
Agricultural Implement Makers	..	9	Mills—Steam .. ..	..	3
Breweries	3	19	Water and Wind ..	5	51
Candle Makers .. ..	..	4	Potteries .. .. .	..	1
Cooperages .. .. .	..	9	Printing Offices ..	1	8
Coachmakers .. ..	..	2	Ropemakers	1	1
Distilleries	1	4	Sailmakers	1	5
Dyers .. .. .	..	2	Sawmills	1	2
Engineers .. .. .	..	7	Shipwrights .. ..	..	5
Fellmongers	2	4	Snuff Makers .. ..	..	1
Foundries .. .. .	..	3	Soap Makers	1	1
Furriers .. .. .	..	2	Tanners	6	15
Mast and Block Makers	..	1	Wool Staplers .. ..	..	3

The grinding of wheat for flour gave rise to the first demand for power, the original solution being water mills and windmills followed by use of the steam engine (the first steam mill commenced in 1831). Later records refer to 'mills, horse-driven', the beast being driven around a circular track. The relation between early factory activity and the farming and whaling economy in which it grew is indicated by the fact that, in the table, five of the descriptions (fellmongers, etc.) refer to processing of animal products, four (shipwrights, etc.) to the construction and maintenance of ships and two (breweries, distilleries) to the making of alcoholic beverages for which there were nearly as many licensed outlets as exist today.

The *Account of Manufactories and Trades*, on a simple establishment basis similar to the last table, was published annually throughout the 19th century and is at least a guide to the introduction of new industries and new skills to the State.

The presentation of factory statistics, in the private sector, on a simple establishment basis failed to answer a number of questions such as the number of employees, the quantities and values of items produced, the total value of output, the capital invested, etc., and this lack of information persisted until 1882 when the Government Statistician began publishing quantity,

value and employment data for jam factories and breweries; the coverage of industries was then gradually expanded until, by 1911, publication had commenced of annual factory statistics showing most of the basic information sought in current collections.

Some indication of the transformation of Tasmania from an essentially rural economy is given in the following table in which the proportion of the work force engaged in manufacturing activities is compared in the period 1911 to 1966.

Employment in Tasmanian Factories Compared with Total Labour Force

Particulars	1911	1933	1947	1954	1961	(a) 1966
Factory Employment (b)—						
Males	8,737	7,147	16,186	20,249	24,811	28,041
Females	1,561	2,086	3,751	4,340	5,347	6,274
Persons	10,298	9,233	19,937	24,589	30,158	34,315
Labour Force (c)—						
Males	61,182	69,226	80,201	93,976	101,289	106,557
Females	13,343	16,861	20,117	24,232	29,628	40,765
Persons	74,525	86,087	100,318	118,208	130,917	147,322
Factory Employment as Percentage of Labour Force—						
Males	14.3	10.3	20.2	21.5	24.5	26.3
Females	11.7	12.4	18.6	17.9	18.0	15.4
Persons	13.8	10.7	19.9	20.8	23.0	23.3

(a) Labour force figures in 1966 not strictly comparable with those for previous years; see 'Employment' section of Chapter 17, 'Labour, Wages and Prices'.

(b) Average number of persons engaged, including working proprietors, as reported in the annual Factory Census for 1911 and those for financial years ending in 1933, 1947, 1954, 1961 and 1966.

(c) Source: censuses of population in years shown; includes employers and self-employed.

Electric Power and Industrialisation

In 1900 the Government Statistician published operational details of Tasmania's chief manufacturing industries; these read in part as follows (with specification of the number of 'hands' employed): Sawmills, 920; Jam Factories, 499; Boot Factories, 364; Brickyards and Potteries, 247; Woollen Mills, 177; Tanneries and Fellmongeries, 131; Flour Mills, 126; Breweries, 97; Butter Factories, 92; Fruit-drying Sheds, 76; Soap and Candle Factories, 57; Bark Mills, 33; Bacon Factories, 18. At this time, virtually all power was generated by steam engine on the factory site; the alternative sources such as gas, oil and electricity were rarely used. A year later the establishment of the Commonwealth of Australia introduced free trade between the States and this deprived Tasmanian industries of the protection they had previously enjoyed. The free importation of Australian manufactures, chiefly from Victoria, brought about a period of stagnation and inhibited the further development of manufacturing industry within the State; loss of population by migration to other parts of Australia in each decade up to World War II reflected the lack of employment opportunities which an expansion of manufacturing activity would have provided.

If a new factor had not been introduced in the years after Federation, the probability is that Tasmania would have maintained a predominantly rural economy, diversified to a limited extent by sawmilling and mining. In these circumstances, employment opportunities would have been severely restricted and the more industrialised mainland States would have continued to rapidly drain the island's population growth attributable to natural increase. The new factor that eventually transformed the State's economy was hydro-electric power but its possibilities could not be exploited without heavy capital expenditure and massive construction works, all of which required time. It is paradoxical, therefore, that the first major hydro-electric construction works were initiated in a period of stagnation immediately prior to World War I, and that the second major construction phase was pushed forward during the 1930s when the State's factory activity was at a very low ebb due to the general economic depression.

The key to the further industrialisation of Tasmania was its abundant supply of water at high level in the Central Plateau and the State's industrial revolution may be thought of as beginning in 1916 when the Waddamana turbines below the Great Lake began operating; from the initial 10,000 horsepower then developed, the hydro-electric system has expanded to today's capacity of over 1,280 kW. The availability of cheap electric power resulted in the establishment of new types of industry, some on a very large scale; examples are: electrolytic zinc production, 1917; carbide manufacture, 1918; fine paper production, 1938; aluminium production, 1955; ferro-manganese production, 1962. The introduction of pulp and paper manufacture is a special case to the extent that changes in technology made possible the use of native hardwoods for the first time; the production of suitable pulp from eucalypts was pioneered in Tasmania before plants were established in other Australian States.

Given that electrical power is cheap and usually abundant, the question arises as to why the industrialisation of the State has not progressed further. The two obvious impediments to the rapid introduction of new enterprises are the small size of the local market and the costs of transportation to the principal markets in the other States. The weighing of these factors (i.e. cheaper power against possibly higher transportation costs) has naturally had the effect of attracting industries requiring large quantities of power. Such undertakings are not necessarily large employers of labour so it is possible that industrialisation, measured by capital investment and electrical power consumption, may have progressed more rapidly than industrialisation measured by involvement of the labour force in factory activities.

Without this advantage in electrical power, Tasmania would be largely restricted to an economy based on its own primary products—and even these, in many cases, would need to be processed in other Australian States. With it, Tasmania is not only capable of processing its own primary products but also of importing raw materials (e.g. the ores and concentrates used at Risdon and Bell Bay) for its own manufacturing industries.

FACTORY STATISTICS

Introduction

Factory statistics based on the new definitions developed for the integrated economic censuses are not comparable with those produced under the old system i.e. before 1968-69. However, some of the old series have been retained in the following section, to provide a picture over a number of years of factory activities in Tasmania. As data become available from future integrated economic censuses the old series will be replaced.

Factory Statistics Prior to 1968-69

The statistics dealing with factories before 1968-69 were compiled from returns supplied annually by manufacturers. A return had to be supplied for every factory, which was defined for this purpose as an establishment where four or more persons were employed or where power (other than manual) was used in any manufacturing process.

If a manufacturing business was conducted in conjunction with any other activity, particulars relating to the manufacturing section only were included in the statistics. Where two or more industries were conducted in the same establishment, a separate return was obtained for each industry, if practicable.

Manufacturers were required to state in their returns particulars of the number, wages, etc. of their employees, the value of premises and equipment and of factory stocks, the horsepower of machinery, the value and, in many cases, the quantities of raw materials and fuel used, and quantities and values of principal articles produced. The returns obtained from manufacturers were not intended to show a complete record of the income and expenditure of factories nor to show the profits or losses of factories collectively or individually.

Employment Definitions

The average number of persons employed was compiled on two different bases: (i) the average number of persons employed during the period of operation of factories which was used mainly for the purpose of classifying factories according to number of workers employed; and (ii) the average number over the whole year (equivalent number working for a full year) which was used for all other tabulations.

Value Definitions

The *value of factory output* was defined as the value of goods manufactured or their value after passing through the particular process of manufacture and *included* the amount received for repair work, work done on commission and receipts for other factory work. The basis of the valuation of output was the selling value of the goods at the factory, exclusive of all delivery costs and charges and excise duties, but inclusive of Government bounty and subsidy payments.

The *value of production* was defined as the value added to raw materials by the process of manufacture. It was calculated by deducting from the value of factory output the value (at the factory) of those items of cost, other than wages and salaries, specified on the factory statistical collection form, namely materials used, containers and packing, power, fuel and light used, tools replaced, and materials used in repairs to plant (but not depreciation charges); the remainder so derived was the value added to raw materials, and represented the amount available for wages, taxation, rent, interest, insurance, etc. and profit.

Summary of Factory Statistics, Pre-1968-69

In the tables that follow, factory statistics, where appropriate, are presented in terms of the class of industry.

The next table shows factory development over a long period as measured by number of factories, employment, value of production, etc. In making comparisons over so long a period, account should be taken of changes in the purchasing power of money. The series ends in 1967-68 but data for 1968-69 appear later in this Chapter in the section 'Census of Manufacturing Establishments, 1968-69'.

Development of Factories from 1911: Selected Years

Year	Number of Factories	Average Number of Persons Engaged (a)	Salaries and Wages Paid (b)	Value of—			
				Materials Used, Fuel, etc. (c)	Production (d)	Output	Land, Buildings, Plant and Machinery
	no.	no.	\$m	\$m	\$m	\$m	\$m
1911 ..	609	10,298	1.7	4.2	2.9	7.1	4.5
1920 ..	616	10,225	3.0	8.8	5.5	14.3	5.8
1929-30 ..	845	10,820	4.1	10.0	7.1	17.1	19.9
1939-40 ..	980	14,670	5.4	13.5	12.5	26.0	21.1
1949-50 ..	1,456	23,506	19.3	51.5	38.7	90.2	44.8
1954-55 ..	1,597	25,452	37.7	101.0	76.2	177.2	118.9
1959-60 ..	1,683	29,662	57.6	147.7	120.4	268.1	251.3
1963-64 ..	1,746	31,833	70.6	188.5	152.6	341.1	310.1
1964-65 ..	1,805	32,580	76.5	214.2	167.3	381.5	364.3
1965-66 ..	1,792	34,315	83.0	229.0	175.6	404.6	370.6
1966-67 ..	1,771	34,879	90.8	243.4	194.6	438.0	403.1
1967-68 ..	1,797	35,178	96.2	247.1	198.0	445.1	448.0

(a) Average for whole year after 1927-28; earlier averages relate to the period of operation. Includes working proprietors.

(b) Excludes drawings of working proprietors.

(c) Includes materials used plus cost of power, fuel, light, water and lubricating oils, containers, packing, etc., tools replaced and repairs to plant but excludes depreciation allowance and sundry overhead charges (e.g. rates, land tax, etc.) not specified on the factory form.

(d) Value of output less cost of materials used, fuel, etc. as defined in note (c).

Factories in Statistical Divisions, Pre-1968-69

For a definition of the component industry groups of each classification, see the tables in the following section 'Factories Classified According to Class of Industry'.

A general indication of the geographical distribution of factories is given in the following table, the analysis dealing with factory Classes I to XV inclusive. In Tasmania, factory Class XVI, 'Heat, Light and Power', constituted something of a problem in any geographical distribution because the chief component of the class is the power houses, or 'central electric stations' generating electricity for the State Hydro-Electric Commission. To take a specific case, it is theoretically possible for the basic water storage to be in one statistical division, the generating stations in a second division and the point of delivery, through transmission lines, in all other divisions. Since the output of energy from the stations is integrated into a State-wide grid, the allocation of value of output, value of production, etc. to various statistical divisions is impracticable; accordingly, Class XVI, 'Heat, Light and Power', is completely excluded from the table.

Factories: Principal Items by Statistical Divisions and Selected Areas, 1967-68 (a)
Classes I-XV Only

Particulars	Factories (no.)	Employ- ment (no.)	Salaries and Wages Paid (\$'000)	Value (\$'000) of—			
				Materials Used, Fuel, etc.	Produc- tion	Output	Land, Buildings, Plant and Machinery
STATISTICAL DIVISIONS AND SUB-DIVISIONS							
Hobart	557	13,427	37,209	84,540	68,096	152,637	70,155
Southern	192	1,016	2,213	6,751	4,067	10,817	7,606
Northern—							
Tamar	482	10,136	25,155	65,156	47,065	112,220	76,181
North Eastern	105	663	1,551	4,426	2,678	7,108	2,987
Total	587	10,799	26,706	69,582	49,743	119,328	79,168
Mersey-Lyell—							
North Western	409	8,904	26,417	73,965	53,000	126,965	72,299
Western	29	602	2,103	10,704	7,688	18,392	1,275
Total	438	9,506	28,520	84,669	60,688	145,357	73,574
Total Classes I-XV	1,774	34,748	94,646	245,542	182,596	428,138	230,501
SELECTED AREAS							
Urban Hobart	510	12,210	33,420	76,076	60,076	136,152	60,352
Urban Launceston	355	8,251	19,097	39,588	30,876	70,464	28,860
Remainder of State	909	14,287	42,129	129,879	91,644	221,522	141,289
Total Classes I-XV	1,774	34,748	94,646	245,542	182,596	428,138	230,501

(a) Definitions of employment, salaries and wages, materials used, fuel, etc., and value of production have been given in an earlier summary table.

As indicated in the previous table, the chief centre of factory activity, measured in terms of value of production, was the Hobart Statistical Division; its contribution to total value added was 37 per cent. Major establishments in the Division engaged in zinc and chemical fertiliser production, papermaking, carbide manufacture, confectionery making, fruit processing and various types of metalworking and engineering.

Contributing 34 per cent to the total value of production was the Mersey-Lyell Division, with major industries including paper manufacture, cement production, iron ore pellet production, plywood and building-board making, fruit and vegetable canning and preserving, and some textile making. The Northern Division contributed 26 per cent; Launceston is the acknowledged textile 'capital' of the State and further north, at Bell Bay, major aluminium and ferro-manganese producing plants operated.

Factories Classified According to Class of Industry

The following table contains a summary of the principal statistics for factories by class of industry in Tasmania:

Principal Items by Class of Industry, 1967-68

Class of Industry	Factories	Employment	Salaries and Wages Paid	Value of—			
				Materials Used, Fuel, etc.	Production	Output	Land, Buildings, Plant and Machinery
	no.	no.	\$m	\$m	\$m	\$m	\$m
I. Treatment of Non-Metalliferous Mine and Quarry Products	58	888	2.73	7.11	8.11	15.22	10.88
II. Bricks, Pottery, Glass, etc. ..	21	359	1.04	1.14	2.00	3.13	2.76
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease	31	920	3.27	10.43	9.19	19.61	11.23
IV. Industrial Metals, Machines, Conveyances	698	12,155	35.54	80.40	68.57	148.97	95.61
V. Precious Metals, Jewellery, Plate	19	47	0.09	0.08	0.16	0.23	0.20
VI. Textiles and Textile Goods (not Dress)	24	3,986	8.86	19.86	12.90	32.76	12.39
VII. Skins and Leather (not Clothing or Footwear)	5	48	0.12	0.70	0.17	0.87	0.09
VIII. Clothing (except Knitted) ..	82	726	1.22	1.13	2.33	3.46	2.41
IX. Food, Drink and Tobacco ..	279	5,413	13.59	63.50	25.00	88.50	39.80
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	403	3,919	9.65	24.93	17.96	42.89	13.13
XI. Furniture, Bedding, etc. ..	65	672	1.33	2.74	2.31	5.04	1.91
XII. Paper, Stationery, Printing, Bookbinding, etc.	50	5,314	16.54	32.56	32.65	65.21	38.13
XIII. Rubber	19	139	0.36	0.77	0.80	1.57	1.12
XIV. Musical Instruments, etc. ..	..	..	..	..	..	..	..
XV. Miscellaneous Products ..	20	162	0.30	0.21	0.45	0.65	0.85
Total Classes I to XV ..	1,774	34,748	94.65	245.54	182.60	428.14	230.50
XVI. Heat, Light and Power ..	23	430	1.59	1.52	15.42	16.94	217.55
Total All Classes ..	1,797	35,178	96.24	247.06	198.02	445.08	448.05

Salaries, Wages and Other Factory Costs, Pre-1968-69

The table that follows has been compiled to show male and female earnings by the type of industry in which employed:

Salaries and Wages in Factories (a), 1967-68
(\$'000)

Class of Industry	Managers, Clerical Staff, Chemists, Draftsmen, etc.		All Other Employees		Total		
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Persons
I. Treatment of Non-Metalliferous Mine and Quarry Products	518	55	2,135	19	2,653	74	2,727
II. Bricks, Pottery, Glass, etc.	109	17	913	5	1,022	22	1,044
III. Chemicals, Dyes, etc.	825	100	2,328	16	3,153	116	3,269
IV. Industrial Metals, Machines, etc. ..	5,784	781	28,301	671	34,085	1,452	35,538
V. Precious Metals, Jewellery, Plate ..	4	5	78	..	82	5	88
VI. Textiles, and Textile Goods (not Dress)	1,086	401	4,004	3,368	5,090	3,769	8,859
VII. Skins and Leather (not Clothing or Footwear)	32	..	88	1	120	1	121
VIII. Clothing (except Knitted)	122	39	492	570	614	609	1,223
IX. Food, Drink and Tobacco	2,337	720	8,487	2,047	10,824	2,767	13,591
X. Sawmills, Joinery, Boxes, etc.	982	100	8,497	77	9,478	177	9,655
XI. Furniture, Bedding, etc.	171	60	995	103	1,167	162	1,329
XII. Paper, Stationery, Printing, Binding, etc.	2,435	442	12,423	1,244	14,858	1,686	16,543
XIII. Rubber	45	14	295	..	341	14	355
XIV. Musical Instruments, etc.	43	12	211	38	254	50	304
XV. Miscellaneous Products .. .. .	..	..	..	..	..	..	..
Total Classes I to XV	14,494	2,746	69,248	8,159	83,742	10,905	94,646
XVI. Heat, Light and Power	132	..	1,454	3	1,587	3	1,590
Total All Classes	14,626	2,746	70,702	8,162	85,329	10,908	96,236

(a) Excludes drawings of working proprietors.

Costs of Manufacture (Other than Salaries and Wages), Pre-1968-69

The next table was compiled to summarise the various costs (apart from salaries and wages), specified in the 'old style' factory collection:

'Statistical' Costs of Manufacture Other Than Wages and Salaries (a)
(\$'000)

Particulars	1957-58	1963-64	1964-65	1965-66	1966-67	1967-68
Power, Fuel and Light Used	9,775	15,768	17,676	18,453	19,026	18,651
Water Used (not as Power)	189	404	448	501	554	546
Lubricating Oils	183	193	203	227	246	287
Repairs and Replacements	5,978	7,795	9,407	9,564	11,225	11,883
Wrappers, Containers, Labels, etc. ..	7,284	9,722	10,644	11,552	11,315	12,606
Total (excluding Materials Used)	23,409	33,882	38,378	40,296	42,366	43,973
Materials Used	100,582	154,613	175,920	188,678	201,027	203,084
Total 'Statistical' Costs (a)	123,991	188,495	214,299	228,974	243,393	247,057

(a) 'Statistical' costs are restricted to those shown in the table and exclude items such as interest, rates and taxes, insurances, depreciation, etc.

Value of Output and Value of Production, Pre-1968-69

Value of output was not a satisfactory indicator for making year-to-year comparisons or for making comparisons between classes of industry. To the extent that the finished article from one industry could become a material for use in the manufacturing process of another industry, values of outputs were likely to be inflated by 'double counting'. Cardboard boxes

and containers, for example, a finished product of Class XII, may be used to pack the products of industries, in most other classes; similarly, electric power, a final output from Class XVI, was also taken into all other industry classes as a cost of production. For these and other considerations, the better measure for purposes of comparison was undoubtedly value of production (i.e. value of output less 'statistical' costs but with no deduction of wages and salaries).

Value of factory output by classes of industry for a five-year period is shown in the following table:

Value of Factory Output (\$ million)					
Class of Industry	1963-64	1964-65	1965-66	1966-67	1967-68
I. Treatment of Non-Metalliferous Mine and Quarry Products	10.58	10.38	11.68	11.75	15.22
II. Bricks, Pottery, Glass, etc.	2.26	2.58	2.58	2.68	3.13
III. Chemicals, Dyes, etc.	14.90	16.93	17.88	19.78	19.61
IV. Industrial Metals, Machines, etc.	110.66	128.85	134.91	150.04	148.97
V. Precious Metals, Jewellery, Plate	0.17	0.17	0.19	0.20	0.23
VI. Textiles and Textile Goods (not Dress)	28.70	32.90	32.35	33.45	32.76
VII. Skins and Leather (no: Clothing or Footwear)	0.81	1.01	0.89	1.06	0.87
VIII. Clothing (except Knitted)	2.78	3.13	3.30	3.22	3.46
IX. Food, Drink and Tobacco	68.55	74.59	81.07	88.85	88.50
X. Sawmills, Joinery, Boxes, etc.	32.30	36.44	40.21	41.15	42.89
XI. Furniture, Bedding, etc.	3.24	3.58	3.71	4.54	5.04
XII. Paper, Stationery, Printing, Binding, etc.	50.41	53.72	57.86	61.37	65.21
XIII. Rubber	1.18	1.19	1.30	1.55	1.57
XIV. Musical Instruments, etc.	..	..	..	..	..
XV. Miscellaneous Products	0.39	0.51	0.77	0.64	0.65
Total Classes I to XV	326.93	365.97	388.71	420.28	428.14
XVI. Heat, Light and Power	14.13	15.58	15.88	17.68	16.94
Total All Classes	341.06	381.55	404.58	437.96	445.08

The next table shows the value of production in Tasmanian factories in the period 1963-64 to 1967-68:

Value of Factory Production (\$ million)					
Class of Industry	1963-64	1964-65	1965-66	1966-67	1967-68
I. Treatment of Non-Metalliferous Mine and Quarry Products	4.77	4.86	5.21	5.08	8.11
II. Bricks, Pottery, Glass, etc.	1.43	1.64	1.69	1.74	2.00
III. Chemicals, Dyes, etc.	7.15	7.88	8.15	9.17	9.19
IV. Industrial Metals, Machines, etc.	49.25	54.50	58.17	68.79	68.57
V. Precious Metals, Jewellery, Plate	0.13	0.13	0.14	0.15	0.16
VI. Textiles and Textile Goods (not Dress)	10.50	13.48	12.46	13.11	12.90
VII. Skins and Leather (not Clothing or Footwear)	0.16	0.16	0.17	0.19	0.17
VIII. Clothing (except Knitted)	1.82	2.02	2.13	2.14	2.33
IX. Food, Drink and Tobacco	22.47	23.17	24.42	27.20	25.00
X. Sawmills, Joinery, Boxes, etc.	13.58	15.67	17.32	17.08	17.96
XI. Furniture, Bedding, etc.	1.47	1.60	1.66	2.07	2.31
XII. Paper, Stationery, Printing, Binding, etc.	25.72	26.52	28.03	30.15	32.65
XIII. Rubber	0.64	0.59	0.60	0.72	0.80
XIV. Musical Instruments, etc.	..	..	..	..	..
XV. Miscellaneous Products	0.27	0.33	0.41	0.42	0.45
Total Classes I to XV	139.36	152.56	160.57	178.00	182.60
XVI. Heat, Light and Power	13.21	14.69	15.03	16.57	15.42
Total All Classes	152.57	167.25	175.61	194.57	198.02

Principal Articles Manufactured

The next table lists the principal articles manufactured in Tasmania irrespective of the sub-class of industry in which production took place. In several cases, however, where there are only one or two producers or where one producer dominates, it is not possible to publish details for articles that are important and would otherwise appear in the table. To give some indication of changes in production, quantity details are given for 1938-39, 1959-60, 1969-70, 1970-71 and 1971-72.

Principal Articles Manufactured: Quantities

Article	Unit	1938-39	1959-60	1969-70	1970-71	1971-72
Acid, Sulphuric (100 per cent) ..	tons	14,158	127,038	262,240	381,077	549,833
Aerated Waters	'000 gal	338	1,838	2,937	3,090	3,168
Bacon and Ham	'000 lb	1,935	2,562	1,381	1,775	1,941
Bran and Pollard	short tons	8,939	13,201	9,862	9,914	10,139
Bread (2 lb Loaf Equivalents) ..	'000	11,337	27,175	28,348	n.a.	..
Bricks, Clay	'000	14,541	23,975	21,489	19,224	21,123
Butter (a)	tons	4,053	11,744	16,085	15,032	15,076
Cheese	tons	1,420	328	5,322	5,468	5,814
Concrete, Ready Mixed	'000 cu yd	..	n.a.	n.a.	257,468	277,661
Electricity, Total Generated ..	mkWh	567	2,532	5,140	5,451	5,778
Fertilisers—						
Sulphate of Ammonia	tons	..	57,601	39,922	39,616	40,705
Superphosphate	tons	30,086	102,613	131,140	103,659	103,108
Flour	short tons	19,582	30,872	24,192	24,542	24,789
Fruit—						
Canned or Bottled—						
Apples, Solid Pack	'000 lb	2,313	16,584	12,962	11,002	7,995
Berry Fruits	'000 lb	918	2,944	425	442	n.p.
Dehydrated and Evaporated						
Apples	'000 lb	762	558	724	576	625
Bed Bases, Woven Wire	no.	3,386	7,286	8,966	7,090	6,792
Paper, Newsprint	tons	..	88,510	170,576	175,860	178,610
Timber—						
Sawn, Peeled or Sliced (b)—						
Hardwood	'000 sup ft	83,499	164,895	169,805	167,113	167,892
Softwood	'000 sup ft	1,529	4,764	5,491	4,984	4,864
Dressed—						
Floorboards	'000 sup ft	5,124	29,511	34,538	n.a.	n.a.
Weatherboards	'000 sup ft	1,911	3,743	1,923	n.a.	n.a.
Other	'000 sup ft	1,165	15,979	29,617	n.a.	n.a.
Woodchips, etc.	'000 green tons	..	n.a.	n.a.	816	1,194
Zinc, Refined	tons	69,825	117,893	168,232	159,708	173,021

(a) Includes butter equivalent of butter oil.

(b) Includes timber to be further processed.

The articles just listed do not include the following important Tasmanian products: aluminium, automotive engine bearings, carbide, cement, confectionery, ferro-manganese alloys, hand tools, hardboard, iron ore pellets, particle board, printing, writing and wrapping papers, titanium di-oxide, canned, dehydrated and quick frozen vegetables, wood pulp, woollen manufactures, other textile products and sodium alginate. Some articles, although principal manufactures, such as cakes, pastry and pies, wooden furniture and joinery (excluding doors) are not included, as value details only are collected for such items.

CENSUS OF MANUFACTURING ESTABLISHMENTS, 1968-69

Introduction

As related in the previous section of this Chapter, annual censuses of factories were conducted by the Bureau from almost the start of the present century; the last 'old style' factory census covered the year 1967-68. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of manufacturing and four other sectors (mining; wholesale trade; retail trade; and electricity and gas production and distribution).

The integrated economic censuses 1968-69 were fully described in Appendix A of the 1972 *Year Book* in which there also appears an explanation of the factors which made necessary the termination of 'old style' factory censuses and the start of a new series, based on new reporting units and data concepts. In this section, it is intended to give the *preliminary results* of the 1968-69 manufacturing census for Tasmania and to point out differences between the old-style and new-style censuses.

Definition of Manufacturing Establishment

All Activities at One Location

In all 1968-69 economic sector censuses the basic census unit, in general, covers all the operations carried on under the one ownership at a single physical location. The *manufacturing establishment* is thus one engaged predominantly in manufacturing but the data supplied for it now cover (with a few exceptions) all activities at the location. The data cover not only specified manufacturing primary to one class of industry, but also:

- (a) any other manufacturing activity (i.e. production of goods primary to another class of industry);
- (b) any selling and distribution activities connected with the products manufactured; and
- (c) any non-manufacturing activity (e.g. selling of goods not manufactured by the establishment, or extraction of raw materials for the use by the establishment).

Exceptions to this total coverage rule are made where the secondary or subsidiary activity (in terms of gross value) exceeds \$1m and such locations are treated for statistical purposes as two or more establishments corresponding to the various kinds of activity carried on.

Administrative Offices and Ancillary Units

The manufacturing establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the enterprise which owns and operates the establishment. These units include head offices, storage premises and certain manufacturers' sales branches or sales offices; however, if the last types of unit distribute to customers from stocks they hold, then they are treated as establishments in their own right and included in the wholesale census.

Effects of New Classification

The establishments' classification is based on the Australian Standard Industrial Classification (ASIC). ASIC defines the industries in the economy for statistical purposes and specifies the scope of the different economic censuses without gaps or overlaps. The adoption of ASIC has resulted in changes in scope between the 1968-69 manufacturing census and the earlier factory censuses. The main changes in scope are as follows:

- (a) Electricity and gas production is made the subject of a separate census, the coverage of which is extended to include distribution.
- (b) Establishments mainly engaged in the following activities, previously included in factory censuses are excluded in 1968-69: (i) motor vehicle repairs; (ii) repair and servicing of agricultural machinery; (iii) dry-cleaning, laundering, and dyeing services; (iv) watch, clock and jewellery repairing; (v) custom dressmaking and tailoring, repairs, alterations, etc.; (vi) installing and repairing of blinds and awnings, making up and installing of curtains; and (vii) repair of domestic appliances. Establishments mainly engaged in these activities were excluded from the 1968-69 manufacturing census and included in either the census of retail trade or the census of wholesale trade. (The full title in the retail sector was 'Census of Retail Trade and Selected Services'.)
- (c) Establishments mainly engaged in slaughtering or milk treatment were previously excluded from the factory census but were included in the 1968-69 manufacturing census.

The most obvious effect of the change in scope is the change in the number of Tasmanian establishments: the number included in the 1967-68 factory census was 1,797; the number included in the 1968-69 manufacturing census (preliminary results) was only 1,039. The factors causing this sharp reduction can be summarised as follows: (i) change in scope; (a) and (b) combined above caused a very large decrease while (c) caused only a small increase; and (ii) classification by major activity caused the elimination of establishments where manufacturing was not the major activity; such establishments were covered in the mining, retail or wholesale censuses if their major activities were reported in these sectors, or otherwise classified as 'out-of-scope' of all present census sectors.

New Data Concepts

The introduction of standardised data items in all census sectors has involved changes in the content of manufacturing statistics. Basic items in the former factory censuses were 'value of output' and 'value of production' (see definitions in 'Factory Statistics, Prior to 1968-69'); the new corresponding items in the 1968-69 manufacturing census are 'turnover' and 'value added'. The new items are derived in a different way and while the old 'value of production' is somewhat similar in concept with the new 'value added', the old 'value of output' referred to value at the factory door whereas 'turnover' relates to actual sales. The new items are defined below:

Value of Turnover

The Value of Turnover: *Equals* Sales and transfers out of goods manufactured by the establishment;

Plus Sales and transfers out of goods not manufactured by the establishment;

Plus Bounties and subsidies on production;

Plus All other operating income;

Plus Capital work done for own use, or for rental or lease.

In the above definition, all other operating income *includes* commission, repair and servicing revenue but *excludes* rents, leasing revenue, interest (other than from hire purchase), royalties and receipts from the sale of fixed tangible assets.

Purchases and Selected Expenses

Purchases and Selected Expenses: *Equals* Purchases and transfers in of materials, electricity, fuels, containers, etc.;

Plus Purchases and transfers in of goods for resale;

Plus Charges for commission and sub-contract work;

Plus Repair and maintenance expenses;

Plus Outward freight and cartage, motor vehicle running expenses and sales commission payments.

Value Added

The Value Added: *Equals* Value of turnover;

Plus Increase (or *less* decrease) in stocks;

Less Purchases and selected expenses.

Value added is the appropriate measure for comparing various industries and can be added for groups of industries without there being any possibility of duplication.

Transfers

In the previous definitions, the terms 'transfers in' and 'transfers out' occur. The transactions refer exclusively to transfers between establishments of the same enterprise.

Preliminary Results, 1968-69

The tables that follow give preliminary results for the 1968-69 manufacturing census. The results are subject to revision because: (i) the splitting of locations has not been completed; (ii) detailed industry classification has not been carried out; (iii) transfers between establishments have still to be adjusted to obtain consistent values; and (iv) two elements have not been taken into the calculation of turnover, namely bounties and subsidies, and capital work done for own use, or for rental or lease. Because of this last fact, the term 'turnover' is not used in the tables, the substitute being 'sales, transfers out and other operating revenue'.

Final results of the 1968-69 manufacturing census are now available, however, they were not available for inclusion in this Year Book.

Census of Manufacturing Establishments, 1968-69
Preliminary Summary of Operations by Industry Sub-division

Industry Sub-Division	ASIC Code (a)	Establishments Operating	Persons Employed (b)			Wages and Salaries
			Males	Females	Total	
		no.	no.	no.	no.	\$m
Food, beverages and tobacco	21, 22	216	4,687	2,496	7,183	19.2
Textiles; clothing and footwear	23, 24	26	1,799	2,123	3,922	9.4
Wood, wood products and furniture	25	461	4,320	307	4,627	11.3
Paper and paper products, printing	26	55	4,814	1,038	5,852	20.4
Chemical, petroleum and coal products	27	14	1,303	80	1,383	5.0
Non-metallic mineral products	28	60	1,239	87	1,326	4.2
Basic metal products	29	10	3,897	141	4,038	15.5
Transport equipment	32	28	1,076	170	1,246	3.5
Fabricated metal products; other machinery and equipment	31, 33	153	2,369	402	2,771	7.4
Miscellaneous manufacturing	34	16	101	16	117	0.3
Total Manufacturing .. ..	..	1,039	25,605	6,860	32,465	96.1

Census of Manufacturing Establishments, 1968-69
Preliminary Summary of Operations by Industry Sub-division—continued

Industry Sub-Division	ASIC Code (a)	Sales, Transfers Out and Other Operating Revenue	Stocks at 30 June		Purchases, Transfers In and Selected Expenses	Value Added
			1968	1969		
		\$m	\$m	\$m	\$m	\$m
Food, beverages and tobacco	21, 22	127.5	21.1	22.5	90.1	38.8
Textiles; clothing and footwear	23, 24	36.7	15.8	15.9	19.2	17.6
Wood, wood products and furniture	25	51.9	11.5	12.1	29.9	22.6
Paper and paper products, printing	26	92.5	12.9	13.9	46.8	46.7
Chemical, petroleum and coal products	27	24.3	5.8	5.9	13.3	11.1
Non-metallic mineral products	28	17.4	2.1	2.4	8.9	8.8
Basic metal products	29	116.8	18.2	25.4	83.9	40.1
Transport equipment	32	8.9	2.1	2.3	4.2	4.9
Fabricated metal products; other machinery and equipment	31, 33	29.5	5.9	6.0	16.3	13.2
Miscellaneous manufacturing	34	0.6	0.2	0.3	0.3	0.5
Total Manufacturing .. ..	..	506.1	95.6	106.7	312.8	204.4

(a) Australian Standard Industrial Classification number.

(b) At last pay period in June. Includes working proprietors.

Non-comparability

Direct comparison with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data.

Attention is called to one major change in scope, namely the exclusion of electricity and gas production; in tables for previous years this sector appeared as Class XVI Heat, Light and Power. Details of establishments classified to this sector appear in the next section of this Chapter. 'Value added' in the tables of this section is conceptually allied to the old 'value of production' but the difference in definition prevents direct comparison between 1968-69 figures and those for previous years.

Tasmania in Comparison with Other Australian States

A comparison of Tasmanian manufacturing activity with that of the other Australian States and Territories is shown in the following table. Applying the appropriate population relativity factors to the Tasmanian figures, it will be seen that, on most indicators Tasmania is relatively more industrialised than Queensland, Western Australia, Northern Territory and the Australian Capital Territory and approaches the level of South Australia.

Tasmania-Australia Comparison of Manufacturing Activity, 1968-69

State of Territory	Population Relativity (a)	Establishments	Wages and Salaries	Sales, etc. (b)	Stocks at 30 June		Purchases, etc. (c)	Value Added
					1968	1969		
		no.	\$m	\$m	\$m	\$m	\$m	\$m
N.S.W. ..	11.5	14,805	1,658	7,623	1,274	1,364	4,587	3,126
Vic. ..	8.7	12,487	1,381	6,658	1,184	1,263	4,162	2,575
Qld ..	4.5	4,314	317	1,928	241	260	1,282	664
S.A. ..	2.9	3,224	345	1,614	278	308	1,004	640
W.A. ..	2.4	2,774	186	968	126	141	625	357
Tasmania ..	1.0	1,039	96	506	96	107	313	204
N.T. ..	0.2	75	4	23	2	2	14	9
A.C.T. ..	0.3	116	9	31	3	4	17	15
Total Australia	31.5	38,834	3,996	19,351	3,204	3,449	12,004	7,590

(a) Tasmania's total mean population for 1968-69 is expressed as 1.0; other State populations in proportion to 1.0.

(b) Sales, transfers out and other operating revenue.

(c) Purchases, transfers in and selected expenses.

CENSUS OF ELECTRICITY AND GAS ESTABLISHMENTS, 1968-69**Introduction**

In the section of this Chapter headed 'Factory Statistics, Prior to 1968-69', the tables analysing factory production by industry include Class XVI (Heat, Light and Power); in the 'old style' annual factory censuses, of which the last covered 1967-68, this class was confined to the production of electricity and gas and such operations were treated as a particular type of factory activity. For 1968-69 simultaneous economic censuses were undertaken in respect of electricity and gas production and distribution and four other sectors (manufacturing; retail trade; wholesale trade; and mining). In this section it is intended to give the preliminary results of the 1968-69 electricity and gas establishments census for Tasmania and to point out differences between the old-style and new-style censuses. (For a detailed description of the 1968-69 integrated economic censuses see Appendix A of the 1972 Year Book.)

Definitions of Electricity and Gas Establishments

Basic Census Unit

The basic census unit, in general, now covers all the operations carried on under the one ownership at a single physical location. However, for electricity and gas, the basic census unit is an *exception* to the above general concept of the standardised unit. The nature of the activities of electricity and gas undertakings makes the single operating location basis unsuitable. In the Tasmanian situation, for example, the householder paying a bill for power may draw his electricity from any combination of 20 or so stations in an integrated grid; in brief, 'sales' are not recorded against individual stations but are necessarily credited to the grid as a whole.

The special establishment unit in this census consists of *all locations*, including administrative offices and ancillary units, mainly concerned with the production and/or distribution of electricity or gas, operated by the one undertaking in the one State.

Effects of New Classification

The use of the above new definition is one of the reasons for the number of electricity and gas establishments in 1968-69 being considerably less than in previous years. A second cause is the exclusion in 1968-69 of some generating stations operated by enterprises for their own use (only if their value of sales and transfers of electricity exceeded \$100,000 were such stations included in the electricity census).

New Data Concepts

It should be stressed that pre-1968-69 figures for the 'Heat, Light and Power' Class of industry referred only to production; from 1968-69, the electricity and gas census covers not just production but also distribution.

The new data concepts introduced in the 1968-69 census are set out in the previous section of this Chapter (Census of Manufacturing Establishments, 1968-69) and the items and definitions are those used also in the electricity and gas census.

Preliminary Results, 1968-69

Two elements have not been taken into the calculation of turnover, namely bounties and subsidies, and capital work done for own use, rental or lease. Because of this fact, the term 'turnover' is not used in the tables, the substitute being 'Sales, transfers out and other operating revenue'. Direct comparisons with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data.

Census of Electricity and Gas Establishments (a), 1968-69: Preliminary Summary

Establishments Operating During 1968-69	no.	5
Persons Employed (b)—		
Males	"	2,450
Females	"	194
Persons	"	2,644
Wages and Salaries	\$m	10.6
Sales, Transfers Out and Other Operating Revenue	"	34.8
Stocks at 30 June—		
1968	"	5.1
1969	"	4.7
Purchases, Transfers In and Selected Expenses	"	0.9
Value Added	"	33.5

(a) Establishments producing and/or distributing. See special definition of *establishment* in preceding text.

(b) At last pay period in June.

The following table gives a comparison between Tasmania and the other Australian States. Applying the appropriate population relativity factors to Tasmanian figures it can be seen that Tasmania compares favourably on most indicators.

Tasmania-Australia Comparison of Census of Electricity and Gas Establishments (a), 1968-69

State (b)	Population Relativity	Establishments	Persons Employed	Wages and Salaries	Sales, etc. (c)	Stocks at 30 June		Purchases, etc. (d)	Value Added
						1968	1969		
		no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
N.S.W.	11.5	86	29,697	119.9	549.5	43.1	48.2	287.2	266.4
Vic.	8.7	22	19,834	80.2	321.6	26.5	27.8	103.8	219.1
Qld	4.5	28	7,884	28.3	141.2	10.3	11.5	61.8	80.6
S.A.	2.9	19	6,612	24.8	76.2	6.2	6.7	30.0	46.7
W.A.	2.4	58	3,711	12.5	48.2	5.0	6.0	15.0	34.2
Tasmania	1.0	5	2,644	10.6	34.8	5.1	4.7	0.9	33.5
Total Australia ..	31.0	224	71,140	279.3	1,185.0	97.9	106.6	505.2	588.5

(a) Establishments producing and/or distributing. See special definition of *establishment* in preceding text.

(b) In some States electricity is produced by undertakings other than those which distribute it. In these States sales of electricity are duplicated due to the inclusion of bulk sales to distributors in addition to retail sales. Sales figures for N.T. and the A.C.T. are not available for separate publication; therefore the Territories have been included only in the total.

(c) Sales, transfers out and other operating revenue.

(d) Purchases, transfers in and selected expenses.

INDUSTRIAL GROWTH SINCE 1945

Source of Data

In normal circumstances, the Bureau of Census and Statistics does not publish information relating to any single enterprise or establishment, and treats any such information it collects as strictly confidential. It does, however, publish statistical aggregates where they do not directly or indirectly reveal the operations of any single informant.

A description of industrial growth without mentioning individual organisations is not very illuminating; therefore, the *State Directorate of Industrial Development and Trade* has prepared the following section and accepts responsibility for the information given, while in the section describing 'State Industries' the firms included have provided the information published.

Primary-Secondary Relativity

Prior to World War II, there were few large manufacturing establishments in Tasmania. The economy of the State was dominated by primary industries which, in 1938-39, accounted for 60 per cent of the net value of production of all recorded industries.

By today's criteria, pre-war operations of manufacturing establishments were on a small scale but some enterprises have since emerged as national leaders in particular fields. Despite the limitations of geographical isolation and a relatively small domestic market, the State has been going through a period of important industrial development since World War II; the cessation of hostilities released a world-wide demand for goods and services, and a number of new Tasmanian factories were established to take advantage of the situation.

Post-war expansion of factory activity has made the State an important supplier of manufactured goods and processed materials. Major factories which have been established since World War II include producers of chemicals, wood pulp, textiles, processed foods, industrial equipment, refined aluminium, manganese alloys, iron ore pellets and woodchips.

Tasmania as a Site for Industry

The State has certain advantages which have attracted new industrial enterprises. The principal factors are:

Hydro-Electric Power: This is fully described elsewhere in this Chapter and it is therefore sufficient to mention the need of power-intensive industries for cheap bulk electricity (e.g. in metal smelting and refining, heavy chemicals, paper and paper pulp making). The State supply is based on hydro-electric generation, and its capacity is being continuously increased. Rates charged to industrial consumers compare very favourably with those in other Australian systems based principally on thermal generation.

Water Resources: In some parts of the world, water resources are inadequate; shortage of water and the high cost of conservation, re-use and 'purification' have become major problems in the expansion of industry. This is definitely not the situation in Tasmania where water is abundant. The terrain favours the economical construction of high-level storages, while run-of-the-river pumping schemes are feasible at many sites.

Industrial Land, Harbours and Shipping: Cheap land, and its proximity to deep-sea ports are factors influencing the expansion of industry in the four main centres of population: Hobart, Launceston, Burnie and Devonport.

The associated ports are served by overseas ships and by interstate ships using modern roll-on roll-off and containerised cargo techniques.

Legislation and Government Assistance: The policy of the State Government is to promote the establishment and growth of secondary industries in Tasmania, as provided by the *Industrial Development Act 1954*. This Act is administered by the Director of Industrial Development and Trade under the Minister for Industrial Development.

The Directorate gives advice, information and assistance on a wide range of important industrial matters, and is empowered to provide financial assistance, including loan guarantees, with the object of helping establish new industries or expanding those in operation.

In common with manufacturers in other Australian States, Tasmanian manufacturers may be granted tariff protection by the Commonwealth, the policy being to assist efficient producers to compete with those in other countries.

Major New Factories Since 1945

The following lists some of the major factories established in the post-war years:

Gordon Edgell Pty Ltd (Ulverstone and Devonport): A subsidiary of Petersville Australia Ltd, Gordon Edgell Pty Ltd operates two processing plants which have made Tasmania a major producer of processed peas and potatoes.

The Stanley Works Pty Ltd (Moonah): This company was incorporated in 1963 and is jointly owned by the Stanley Works, United States of America, and the Titan Manufacturing Company Pty Ltd (a B.H.P. subsidiary). The Australian member of the new company, Titan Manufacturing Company, in 1945 commenced operations in Hobart making nails and barbed wire, later diversifying to produce wood chisels. Stanley Works Pty Ltd now produces a wide range of hand tools.

Universal Textiles Australia Ltd (Derwent Park): Operations commenced in 1947; the processes include the weaving, dyeing, printing and finishing of silk, nylon, terylene, rayon and cotton. During 1971 new printing and type dyeing machines and new fabric preparation equipment worth approximately \$0.2m were installed. The company is now part of the Textile Division of the Dunlop Australia Group of Companies.

Tioxide Australia Pty Ltd (previously Australian Titan Products Pty Ltd) (Burnie): Production of titanium oxide (rutile) pigments began in 1949; plant capacity has risen from an initial 1,800 tons to 25,000 tons per annum.

James Nelson (Aust.) Pty Ltd (Launceston): Established in 1951 with 150 looms, the mill has since been expanded to over 330 looms for weaving all types of fabrics from man-made fibres. The company is now a member of the Courtauld's Group.

Tootal of Australia (A Division of English Sewing Ltd) (Devonport): First operations in 1952 used piece-goods imported from the U.K. to make textiles. In 1955 plant capacity was increased to include the weaving, dyeing and finishing of locally-produced fabrics; additional high-speed weaving machines were installed in 1968 and 1971.

Comalco Aluminium (Bell Bay) Ltd: The production of aluminium commenced in 1955 at a plant erected with Commonwealth Government funds (with State Government participation). The present company was formed in 1960 to buy out the Commonwealth's interest. Production capacity has grown from 13,000 to 94,000 tons of primary aluminium a year.

Comalco Aluminium Powder Pty Ltd (Bell Bay): This plant was established in 1968 to produce aluminium powder and paste and is capable of supplying the whole of Australia's requirements. Plant capacity is approximately 700 tons per annum.

Tasman Scottish Carpet Manufacturing Pty Ltd (E. Devonport): The first piece of Tasmanian carpet was woven in 1961. Since then a spinning and dyeing plant has been installed (1965) and additional looms have been progressively introduced.

Kraft Foods Ltd (Scottsdale): Kraft Foods Ltd acquired Dewcrisp Products Ltd, manufacturers of dehydrated vegetables and frozen and canned peas in 1961. Commencing in 1964, a long-range expansion programme, based on the manufacture of instant mashed potatoes, was introduced.

Australian Paper Manufacturers Ltd (Port Huon): Production began in 1963, with an initial capacity of 25,000 tons of pelletised wood pulp per annum; capacity has now been lifted to 75,000 tons. Further expansion of plant capacity is planned.

Tasmanian Electro Metallurgical Co. Pty Ltd (Bell Bay): The Broken Hill Co. Pty Ltd established a plant in 1962 to produce high carbon ferro-manganese for the Australian steel industry, with an initial annual output of 26,000 tons. Production capacity is now approximately 75,000 tons of manganese alloys per year.

Alginates (Aust.) Co. (Orford): Operations commenced in 1964, using a special process for extracting sodium alginate from sea kelp. Alginate is a colloid agent, used in film forming, jelling, stabilising, suspending and emulsifying processes. The kelp is obtained from the eastern shoreline in specially designed barges.

Savage River Mines (Pickands Mather and Co. International, Managing Agent): Established at a cost of \$70m, the Port Latta iron ore pelletising plant commenced operation in 1968. Following recent expansion, production is expected to reach 2,500,000 tons of pellets per year. The entire production is sold to Japanese steel mills.

North-West Acid Pty Ltd (Burnie): Established in 1970 to process pyrites from the west coast, the plant has an annual production capacity of some 420,000 tons of sulphuric acid.

RepcO Bearing Company Pty Ltd (Launceston): In 1949 this company was established to manufacture engine bearings for the Australian automotive spare parts trade. The factory has since expanded and diversified the range of products.

Tasmanian Pulp and Forest Holdings Ltd: In early 1971 the company made its first export shipment of woodchips from its Triabunna plant to Japan. The company has a 15-year contract to supply 600,000 tons of woodchips per annum to Japan.

Manufacturing, Electricity and Gas

Expansion of Established Industries

Growth of long-established industries has played an important part in the expansion of manufacturing activity in Tasmania. Examples are:

Australian Newsprint Mills Ltd (Boyer): The first paper machine, with a 27,000 ton capacity per annum, began operating in 1941; a second machine, installed after the war, increased capacity to 94,000 tons of newsprint per annum; the third machine was commissioned in 1969. 1971 production was 175,000 tons of newsprint (A.N.M. is Australia's sole producer of newsprint). Recent extensions gave the plant an annual capacity of 200,000 tons of newsprint for 1973. The company meets approximately 45 per cent of Australia's newsprint requirements.

Associated Pulp and Paper Mills Ltd (Burnie): Paper manufacturing capacity has increased from an initial 14,000 tons per annum in 1938 to 119,000 tons at present. Following its takeover of Wiggins Teape Australia Pty Ltd in 1970, A.P.P.M. became the only Australian manufacturer of fine papers. The company also has subsidiaries making specialty papers, hardboard and particle board and producing sawn timber and woodchips. Production of woodchips commenced at the Long Reach plant during 1972. At Wesley Vale, seven miles east of Devonport, the company has completed a \$24m pulp and paper mill as the first stage of an integrated pulp and paper complex.

Cadbury Schweppes Australia Ltd (Claremont): In 1921 an association of three British confectioners established their Australian plant at Claremont, near Hobart. Today, the plant is the largest cocoa and confectionery factory in Australia. Following a takeover in 1967, MacRobertson (Australia) Ltd became a subsidiary of Cadbury Fry Pascall Australia Ltd. In 1971 Cadbury Fry Pascall Australia Ltd merged with Schweppes (Australia) Ltd. Total staff at Claremont number 1,300.

Electrolytic Zinc Company of Asia Ltd (Risdon): Established in 1916, the factory at Risdon is now one of the largest electrolytic zinc plants in the world. Production facilities have been expanded in recent years and the factory now produces zinc and zinc alloys, cadmium, sulphuric acid, superphosphate, sulphate of ammonia and aluminium sulphate. A new residue treatment plant has been commissioned—the plant uses the Jarosite process developed by the company. Output from the company's mining complex at Rosebery is being doubled to 600,000 tons of ore per annum. Production of the company's principal metal—refined zinc—has doubled since 1944-45, output in 1971-72 reaching 173,021 tons. The zinc plant supplies a large proportion of Australia's total requirements.

Goliath Portland Cement Company Ltd (Railton): Formed in 1928 to take over a small plant, the company began production in 1930 with an output of 65,000 tons of cement a year. Annual production capacity increased to 100,000 tons by the end of the decade and was 200,000 tons by 1956. Plant expansion in 1967 lifted production capacity to over 500,000 tons a year. A fully automated cement mill was commissioned in 1970.

Kelsall and Kemp (Tas.) Ltd (Launceston): From small beginnings in 1921, the company has become a leading producer of woven fabrics in the Australian textile industry.

Coats Patons (Aust.) Ltd (Launceston and George Town): This company first produced yarns in Launceston in 1923 with a staff of 130. Steady expansion followed, involving expenditure of more than \$7m in recent years, and the company now employs about 1,900 at its Launceston and George Town mills.

A. Wander (Aust.) Pty Ltd (Quoiba): Established in Tasmania in 1941, the Quoiba unit has become one of the largest 'Ovaltine' factories in the world. The factory is equipped to manufacture all types of malt extract to specification, as well as a range of dietetic products.

Current Expansion Projects

Associated Pulp and Paper Mills Ltd (Tamar): The company completed its Long Reach woodchip plant in mid-1972; first export shipment of woodchips occurred in late 1972. The company has two contracts for the export of woodchips to Japan: (i) 600,000 tons per annum from 1972 to 1983; and (ii) an additional 300,000 tons per annum from 1973 to 1978.

Northern Woodchips Pty Ltd: Has constructed a woodchip plant near Bell Bay which was expected to be completed in time to begin deliveries to Japan before the end of 1972. Present contracts call for a total export quantity of nine million tons over a period of 15 years.

Lactos Pty Ltd (Burnie): Construction work is in progress on a \$1m manufacturing unit to supply 1,000 tons of Gouda cheese per year to Japan.

Tas. Meats Limited (Somerset): Construction of a new export abattoir was completed by late 1972.

SELECTED TASMANIAN INDUSTRIES

The following account of Tasmanian manufacturing activities has been prepared from information made available by the companies concerned.

The Stanley Works Pty Ltd

History

Originally established in 1945 as the Titan Manufacturing Company Pty Ltd, The Stanley Works Pty Ltd is Tasmania's only manufacturer of hand tools. The factory, located at Moonah (about five miles from the centre of Hobart), was first set-up to manufacture wood-chisels. However, the product range was soon extended to include auger products, cane knives, flat power bits, wood screw pilot bits and plane irons. In 1963 Titan Manufacturing Company Pty Ltd became a joint-owned subsidiary of The Stanley Works (U.S.A.) and the original Hobart based company. The company name was changed to Stanley-Titan Pty Ltd. The merger was designed to substantially increase the range of products from the Moonah plant by introducing new products such as tape rules, trimming knives, bench and block planes, spokeshaves, hand drills and bit braces from the 'Stanley' range of hand tools.

During the 1960s Stanley-Titan extended its merchandising and ware-housing facilities to accommodate the increased production.

In late 1970 the company acquired the Melbourne based manufacturing company, Turner Industries Ltd, which produced building and cabinet hardware and hand tools. As part of the integration of the two companies the administrative headquarters of the two-factory operations were transferred to the former Turner headquarters building at Nunawading. The Moonah plant became the company's major hand tool manufacturing centre while the Nunawading factory is used for production of hardware and tools.

Merging of the Turner Industries and Stanley-Titan production and marketing operations was completed in 1971 when the company name was changed to The Stanley Works Pty Ltd. The new company retained the brand names Stanley, Titan and Turner which have long been linked with precision-made products.

Present Organisation

The Stanley Works Pty Ltd now consists of two manufacturing centres (Nunawading and Moonah), head offices in Melbourne, branch offices in all States, major warehousing facilities in Melbourne and Sydney and the national headquarters in Melbourne.

Tasmanian Operations

Capital Investment: Between 1963 and 1972 capital investment at the Moonah plant rose from \$1.5m to \$2.25m. Further expansion plans are expected to lift this to \$3m during the next five years.

Products: Products from the Moonah plant are of two types—those manufactured from raw materials and those assembled from supplied parts with varying quantities of locally produced components.

The following table shows the types of materials supplied to the Moonah factory, their origin and usage:

Materials Used: Type, Source and End Products

Material	Place of Origin	End Products
Tool Steel	<div> <div>Sheffield, England</div> <div>Newcastle (B.H.P.), N.S.W.</div> </div>	Tape rules, Chisels, Plane Blades, Spokeshave Blades, Cane Knives Augers, Flat Power Bits, Wood-screw Pilot Bits
Mild Steel	Newcastle (B.H.P.), N.S.W.	General Products
Timber	<div> <div>Dunalley, Tasmania (Blue Gum)</div> <div>North West and North East Coasts, Tasmania (Myrtle)</div> </div>	Chisel Handles Brace Handles, Chisel Handles, Hand Drills
Non-Ferrous Castings.. ..	<div> <div>Victoria</div> <div>Sydney, N.S.W.</div> </div>	Tape Rules Trimming Knives
Ferrous Castings	England	Planes, Spokeshaves

The manufacturing processes for the company's main products range through seven major stages: (i) forging; (ii) grinding, (iii) machining; (iv) heat treatment; (v) polishing; (vi) wood-turning; and (vii) lacquering and coating. The products are then assembled, packed and stored for despatch. To allow maximum use of equipment and to avoid down time, the manufacturing system has been made as flexible as possible. In addition the factory layout has been planned to avoid unnecessary handling during manufacture while ensuring delay is kept to a minimum.

Since 1970 a number of The Stanley Works manufacturing processes has been streamlined with the introduction of modern, sophisticated equipment.

In the forging department hand forging machines have been replaced with rotary swaging (shaping) machines into which heated sections of steel rod are fed. A rotating die-head forms the rod to the appropriate specifications depending on whether the production run is for chisels or augers. Electric induction zone heating is used where necessary during forging. This allows accurate control over temperature and cycle times and minimises decarburisation (loss of carbon content) of the steel surface which is an important factor in the forging of high quality tool steels.

Chisels and plane irons are surface ground in a new vertical grinding machine which takes batches of the tools in two turntables fitted with radially slotted magnetic chucks.

A company-designed and built machine is used to head-size augers. This involves cutting away the head of the auger at an angle to prevent binding in the wood.

Accurate temperature control during heat treatment is a very important facet of the production cycle in the manufacture of hand tools. At the Moonah plant two main methods are used: (i) Augers and high-speed steel plane irons are heat treated in electric furnaces using an endothermic gas atmosphere. This eliminates decarburisation at the cutting edge. The product is then oil quenched. (ii) Chisels and carbon plane irons are heated in molten lead baths enabling maintenance of a constant temperature and then quenched in a saline solution.

Employment

When Stanley-Titan was established in 1963 the work force at Moonah totalled 83. In 1972 total employment at The Stanley Works Moonah complex was 175; 35 per cent of the employees were females who were employed as inspectors, machine operators and office staff.

Training: Each year The Stanley Works offers apprenticeships in fitting and turning and opportunities are also provided for training as hand tool production operators. At the professional level the company provides assistance with university courses in commerce and engineering.

Safety: The company is highly safety conscious and is active in accident prevention. It co-operates closely with employee unions and the Tasmanian Division of the National Safety Council. In 1972 The Stanley Works received a safety award for working a continuous total of 500,000 accident-free man hours. This was achieved over 512 elapsed days.

Australian Glass Manufacturers Company

History

Australian Glass Manufacturers Company, an operating unit of Australian Consolidated Industries Ltd, commenced production from its plant at Moonah in 1950. (An earlier plant, established in 1920, was not put into production and was later dismantled.)

Process

The company melts up to 40 tons of glass per day producing a wide range of glassware—e.g. beer, wine, spirits, cider and cordial bottles, containers for processed milk, cream, yoghurt, sauces and toppings. Other containers include packages for pharmaceuticals and household chemicals such as detergents and disinfectants. The moulds and dyes used in the manufacture of each different container are made on the site in the company machine shop, which also undertakes work for other ACI installations and on a contract basis for other firms.

Raw material inputs, in addition to the basic sand, include soda ash (15 per cent of total raw material inputs), calcium carbonate (10 per cent), sodium nitrate (three per cent). After waste glass (used glass that has been reclaimed and crushed into cullet) has been washed and screened it can be added to the other raw materials. The maximum ratio of waste glass, that may be used, to all other raw materials is 1:2. After two to three minutes in a mixer the raw materials are lifted into a storage hopper, situated above the glass melting furnace. From here the batch mixture is fed continuously into the furnace, melted and dropped into forming machines to produce the glass containers needed by packers in the State.

The formed container moves by conveyor belt to the 'lehr' or annealing oven (a heat controlled cooling oven used to reduce the temperature of the glass from manufacturing temperature to room temperature). This process takes about two hours.

The conveyor belt also takes the containers through a series of stringent check points, which include inspecting for cracks or splits, checking correct mouth size and testing pressure resistance. The quality control system combines visual inspection and random sample testing.

Ceramic labelling is, if required, applied by a reheating process in the lehr, where the label fuses into the glass.

Australian Glass Manufacturers in Hobart offers a comprehensive technical service to customers. This service extends from initial design of the container to the finished product. To do this the Moonah plant has available to it the facilities of the ACI Technical Centre in Sydney and the Packaging Services Centre in Melbourne.

Expansion

In 1969 a new amenities block, which includes a canteen for employees, was constructed. A new container forming machine was installed in 1970, and in the same year the melting furnace was reconstructed. Reconstruction of the glass melting furnace increased throughput capacity of molten glass from 32 tons to 40 tons per day. To match the expanded production capacity raw material storage facilities were increased. During 1971 electronic control units, made by A.C.I., were installed to upgrade quality inspection procedures.

In 1968 A.G.M. instituted a glass recovery scheme from households in the Urban Hobart area. Jars, bottles and broken glass are left in containers sited at selected service stations. Proceeds from the sale of the glass collected are donated to Tasmanian hospitals.

Employment

Approximately 130 persons are employed at the Moonah factory, and the annual wages and salaries paid approach \$525,000.

Safety

A.G.M. actively promotes an accident prevention programme and has received two National Safety Council Awards.

GOVERNMENT HYDRO-ELECTRIC POWER**Introduction**

Until 1971 Tasmania was unique among Australian States in that its electric power system was based exclusively on hydro-electric installations. In 1971 a thermal oil-fired station commenced operations at Bell Bay opening a new phase in the development of the generating system. Other Australian States rely principally on thermal plants while hydro-electric power, if available, is used only to supplement the basic supply. The Snowy River Hydro-Electric Scheme, which feeds power to the Victorian and N.S.W. grids, is not designed to cope with the base load demand in these two States, and its essential function is to provide the extra power necessary to meet peak loads, and also to supply irrigation water to the inland. The Tasmanian system, despite its lower installed capacity, produces more power than the Snowy Scheme.

The concentration on water as a source of power in Tasmania has resulted in the need to follow a policy of water conservation, even though the rainfall is usually adequate. Emphasis in the power developments has been on the creation of large storages and multiple use of the impounded waters e.g. water from Lake St Clair may pass through eight power stations before reaching the tidal waters of the Derwent River at New Norfolk.

Output and Capacity of Hydro-Electric System

The following table outlines the development of the Tasmanian generating system:

Tasmanian Power Generating System

Station	Year of Commission	Head (in feet)	Generator Capacity (kW) (a)	Average Annual Output (million kWh units) r
COMPLETED STATIONS				
Waddamana 'B'	1949	1,127	48,000	(b)
Tarraleah	1951	981	90,000	606
Butlers Gorge	1951	184	12,200	71
Trevallyn	1955	415	80,000	542
Tungatinah	1956	1,005	125,000	557
Lake Echo	1956	568	32,400	76
Wayatinah	1957	203	38,250	278
Liapootah	1960	361	83,700	459
Catagunya	1962	142	48,000	263
Poatina	1965	2,720	250,000	1,329
Tods Corner	1966	136	1,600	13
Meadowbank	1967	95	40,000	210
Cluny	1967	51	17,000	93
Repulse	1968	88	28,000	161
Rowallan	1968	161	10,450	37
Lemonthyme	1969	523	51,000	284
Devils Gate	1969	226	60,000	298
Wilmot	1971	825	30,600	127
Bell Bay (Stage 1)	1971	(c)	120,000	788
Cethana	1971	324	85,000	407
Paloona	1972	103	28,000	131
Total .. .. .	..	..	1,279,200	6,730

Tasmanian Power Generating System—continued

Station	Year of Commission	Head (in feet)	Generator Capacity (kW) (a)	Average Annual Output (million kWh units) r
STATIONS UNDER CONSTRUCTION				
Fisher	1973	2,115	43,200	245
Bell Bay (Stage 2)	1974	(c)	120,000	739
Gordon (Stage 1)	1976	610	288,000	1,466
Total .. .. .	..	..	451,200	2,450
ALL STATIONS				
Grand Total .. .. .	..	..	1,730,400	9,180

(a) Emergency gas turbine generating capacity: 20,000 kW at Bell Bay; 10,000 kW at Macquarie Point (Hobart) not included.

(b) Reserve plant only.

(c) Thermal station.

Hydro-Electric Development

The evolution of hydro-electric power development in Tasmania has been extensively dealt with in earlier *Year Books*; the following is a summary of the more important features of previous articles.

Early Development

Hydro-electric power for public use was first introduced in 1895 with construction of the 450 kW *Duck Reach* station on the South Esk River near Launceston. This was a purely municipal supply and work on Tasmania's State-wide system did not begin until 1911 with the exploitation of the Great Lake catchment waters and diversion of the Ouse and Shannon Rivers.

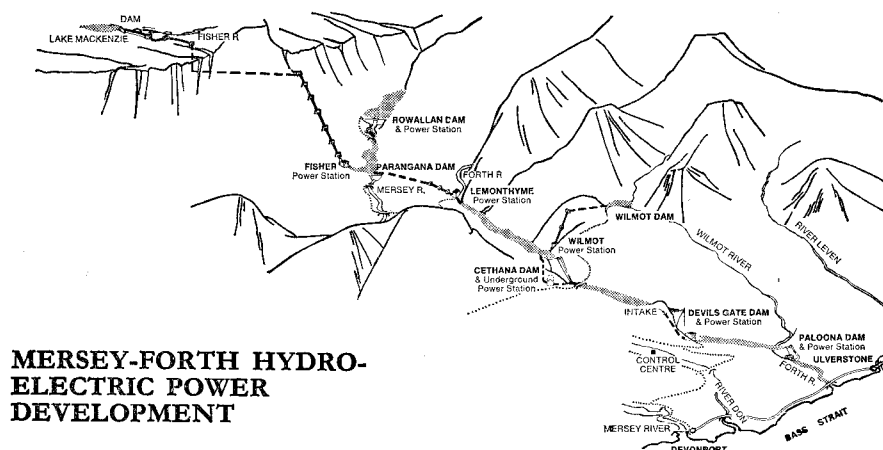
By May 1916 *Waddamana 'A'* station (7,000 kW), the first element of the Great Lake scheme, was commissioned. *Shannon* station was opened in 1934 and in 1944 the third element of the scheme, *Waddamana 'B'* station (48,000 kW) commenced generation. When *Poatina* station was commissioned in 1965, the *Waddamana 'A'* and *Shannon* stations were closed down, *Waddamana 'B'* being retained only for emergency and peak-load generation.

Subsequent Developments

(i) The *Tarraleah* scheme, drawing water from the artificial Lake King William, was commenced in 1934; the early elements of *Tarraleah* station first generated power in 1938. The capacity of *Tarraleah* was progressively expanded to 90,000 kW and the station was completed in 1951 with the installation of a sixth generator. *Builers Gorge* station (12,200 kW), the second element of this scheme, commenced generation on the completion of the Clark Dam in 1951.

(ii) Built to regulate run-off from the extensive area between Great Lake and Lake St Clair, the 32,400 kW *Lake Echo* and 125,000 kW *Tungatinah* stations were commissioned in 1956.

(iii) The *Poatina* station (250,000 kW), the largest of all the stations in the Tasmanian hydro-electric development, was completed in 1965. The station utilises the waters of Great Lake which have been diverted into the South Esk River system. The *Poatina* tailrace discharges into the South Esk River which feeds the 'run of the river' *Trevallyn* station (80,000 kW) located near Launceston. The following diagram shows the Great Lake scheme in detail:



MERSEY-FORTH HYDRO-ELECTRIC POWER DEVELOPMENT

The second high-level storage in the scheme is derived from the development of Lake Mackenzie on the Fisher River. Water is taken by flume, canal, tunnel and pipeline to the *Fisher* (43,200 kW) station. Tailrace waters discharge into the Fisher River which joins the Mersey River just above the Parangana Dam. The Parangana Dam diverts waters of the Mersey and Fisher Rivers westwards by a three-mile tunnel and a penstock to the *Lemonthyme* (51,000 kW) station on the Forth River.

Downstream, the waters of the Wilmot River are diverted to the east by tunnel to the *Wilmot* station (30,600 kW) located on the Forth River above the Cethana Dam.

The combined flows of all four rivers (Fisher, Mersey, Wilmot and Forth) are then used for power generation at three more power stations, all situated in the Forth Valley at the foot of dams at *Cethana* (85,000 kW), *Devils Gate* (60,000 kW) and *Palloona* (28,000 kW).

All seven power stations are designed for fully automatic operation and are remotely controlled from a centre near Sheffield.

Future Development

Gordon River Road: In the earlier stages of investigation of schemes in Tasmania's south-west, light aircraft and helicopters were used for transport but weather conditions frequently made flying impossible. Vehicle access was a necessity, especially for the transport of heavy equipment and stores. In 1963 the Federal Government granted \$5m to build the 53-mile Gordon River Road to open up the area.

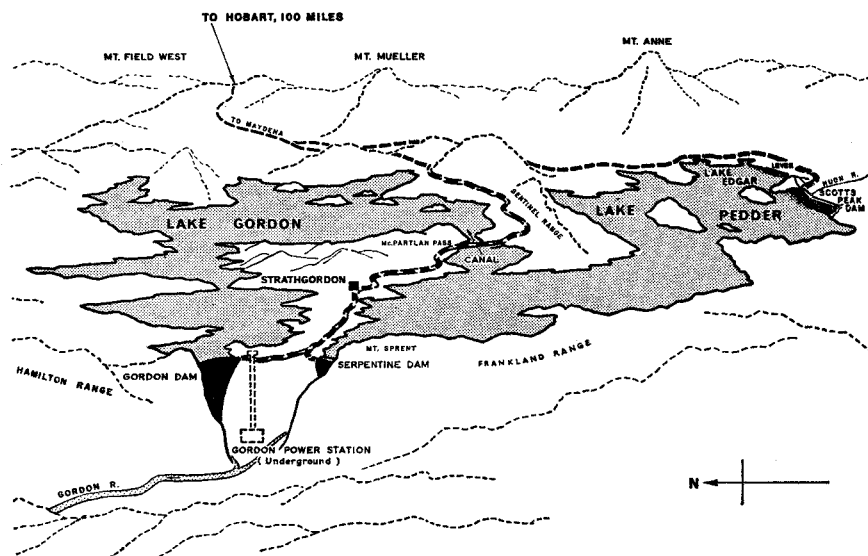
The road starts west of Maydena, passes through Strathgordon (construction headquarters) and ends at the *Gordon* power station site.

Gordon River Power Development—Stage 1: This development, to be completed by 1976, will create the largest water storage in Australia, having a total useful capacity of 11.8m acre-feet, seven to eight times the size of the Great Lake, and three times the size of Lake Eucumbene, the largest lake in the Snowy Mountains Scheme.

The Gordon River Power Development comprises two lakes, each with a surface area of about 200 square miles, joined by a canal. Lake Gordon will be created by a 450 foot high dam on the Gordon River. Two more dams, one on the Serpentine River and one on the Huon River, create an enlarged Lake Pedder.

From Lake Gordon water will be carried by a near vertical shaft to a power station 610 feet underground. The station will be reached from the top by lift and from the Gordon River Road by tunnel. It is designed to be operated by remote control from Hobart, 100 miles away.

The following diagram shows the essential features of the Gordon River power development:



GORDON RIVER POWER DEVELOPMENT

Bell Bay Thermal Station: Installation of the second stage of the Bell Bay oil-fired thermal station is scheduled for completion in 1974. Power generation from the first stage commenced in February 1971.

The station was originally designed to accommodate two steam driven 120,000 kW generators and many of the facilities installed as part of the first stage have sufficient capacity to satisfy the demands of the additional generator. The capital cost of installing the second generating set should therefore be substantially less than that of the first stage of construction.

Proposed Scheme

Pieman River

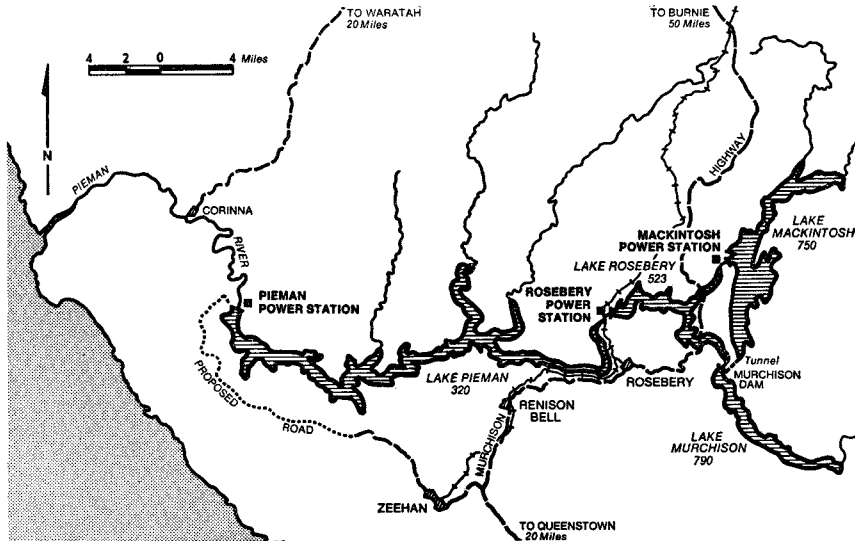
In a Report presented to Parliament on 21 October 1970, the Hydro-Electric Commission announced a power development in the Pieman River catchment of the west coast. The total capital cost is estimated at \$114m; the total installed capacity at 420,000 kW; and the eventual average output at 1,770 kW hours per annum.

Location: The Pieman River flows from the confluence of the Murchison and Mackintosh Rivers, entering the sea below Corinna (see diagram below). The catchment area of 1,034 square miles is mostly rugged, mountainous Crown Land, experiencing annual rainfall between 90 inches and 140 inches. Only two per cent (24 square miles) of the catchment area will be inundated. No developed farmland, no known mineral deposits of commercial value and only very limited quantities of exploitable timber occur in the area.

An administrative base will be constructed near Zeehan, with additional accommodation centres near the main construction sites (Rosebery, Tullah and the Pieman Dam). The peak work force will be 900 workers.

Power Stations: (i) *Mackintosh.* The scheme includes: a dam over 300 feet high on the Murchison River; a 6,800 feet long tunnel from Lake Murchison to Lake Mackintosh; a dam 250 feet high on the Mackintosh River about two miles downstream from the Sophia River junction and the subsidiary Tullibardine Dam (80 feet high) together creating the main storage of the entire development; and a 72,000 kW power station below the Mackintosh Dam through which the combined flows of the Mackintosh and Murchison Rivers will pass.

(ii) *Rosebery*. Includes: a dam about 240 feet high, located on the Pieman River upstream from the Rosebery township, creating a lake extending up the Mackintosh River to the Mackintosh Power Station and up to the Murchison River to just downstream of the Murchison Dam; a power station immediately below the Rosebery Dam, installed capacity, 76,500 kW; the relocation of one and a half miles of the Murchison Highway including new bridges over the Murchison and Mackintosh Rivers; and the relocation of about two miles of the Emu Bay railway, including a new bridge over the Pieman River.



PROPOSED PIEMAN RIVER SCHEME

(iii) *Pieman*. Comprises: a dam about 390 feet high located on the Pieman River immediately upstream from its junction with Stringer Creek; a subsidiary dam 50 feet high; a 270,000 kW power station, located at the junction with Stringer Creek; and a main access road, 22.5 miles long, from Zeehan to the dam site, about six miles upstream from Corinna.

Growth of Hydro-Electric System

The following table shows the growth of the system in recent years:

Hydro-Electric Commission: Operating Statistics

Year					Total Rating of Alternators	Peak Loading	Average Loading	Annual (a) Load Factor
					kW	kW	kW	per cent
1960	..	..	..	..	569,050	415,400	285,250	68.7
1961	..	..	..	..	569,050	438,400	297,080	67.8
1962	..	..	..	..	617,050	461,600	323,790	70.1
1963	..	..	..	..	617,050	550,300	378,000	68.7
1964	..	..	..	..	806,550	582,000	405,620	69.7
1965	..	..	..	..	807,550	593,700	427,580	72.0
1966	..	..	..	..	809,150	624,100	451,047	72.3
1967	..	..	..	..	866,150	636,900	445,490	69.9
1968	..	..	..	..	904,600	628,000	449,028	71.5
1969	..	..	..	..	1,015,600	735,500	556,249	75.6
1970	..	..	..	..	1,015,600	778,700	589,718	75.7
1971	..	..	..	..	1,251,200	842,900	633,838	75.2

(a) Average loading as a percentage of peak loading.

Average Load Factor

The alternator rating (i.e. generator capacity) is necessarily much higher than the peak loading since some generating plant must be held in reserve against the possibility of breakdown.

A power system must be designed to meet both the peak loading (the demand component) and the average loading (the energy component). Peak loading tends to represent high demand for relatively short periods, i.e. it has relatively little energy associated with it. The obvious design and operational problem is to create sufficient capacity to meet peak loading and, at the same time, to encourage the use of power so that the highest possible average loading is obtained.

The Hydro-Electric Commission

The Hydro-Electric Commission is an autonomous statutory authority, responsible almost entirely for the conduct of its own affairs. The 'Minister Administering the Hydro-Electric Commission Act' is answerable to Parliament for the activities of the Commission, but the Commission is not directed by or responsible to the Minister as is a government department. In other words, the Commission is envisaged as a trading or business organisation, and the purpose of the legislation that created it was to remove it from day-to-day political control. The power exerted by Parliament is mainly financial, not over the ordinary revenue and expenditure of the authority, but over the supply of loan moneys for new capital works.

Two other restrictions on the Commission can be listed: (i) it cannot change its tariff charges for the supply of electricity to consumers except with the approval of the Governor-in-Council; and (ii) in certain of its dealings, such as in real estate, the Commission must obtain the approval of the Minister.

The status of the Commission was described thus by the High Court of Australia in a judgment delivered in 1950: 'In the eye of the law the corporation is its own master and is answerable as fully as any other person or corporation. It is not the Crown and has none of the immunities or privileges of the Crown. Its servants are not civil servants and its property is not Crown property.'

Organisation

Under the Commission, with its full-time Commissioner and three part-time Commissioners, there are five branches:

(i) *Civil Engineering Branch*. Responsible for: survey of water resources; design and construction of all civil works involved in power development and allied projects.

(ii) *Electrical Engineering Branch*. Responsible for: studies of load growth and system development; design and construction of all electrical engineering works in conjunction with the Civil Engineering Branch.

(iii) *Power Branch*. Responsible for: operation and maintenance of completed power developments; generation and transmission of power in bulk.

(iv) *Retail Supply Branch*. Responsible for: distribution of electricity to consumers; operation and maintenance of the distribution system; inspection of installations and equipment; consumer advisory activities; sale of electrical appliances; licensing of wiremen and contractors.

(v) *Secretarial*. Responsible for: general administrative business of Commission with sub-sections dealing with accounts, law, personnel, transport, stores and purchasing, medical services, central records, public relations and other services.

Technical Details*Generation*

The total installed generator capacity of the Commission's 21 power stations is 1,251,200 kW. All stations generate alternating current at a frequency of 50 cycles per second. The power is stepped up at each station to the voltage required for transmission.

Transmission

Power is conveyed from the power stations by 220,000, 110,000 or 88,000 volts transmission lines to major sub-stations at various load centres. All power stations and major sub-stations are linked into a grid system thereby ensuring a reliable supply to all parts of the State.

Distribution

Power is distributed from the major sub-stations by a network of 44,000, 33,000, 22,000, 11,000 and 6,000 volt feeder lines from which power is stepped down at zone sub-stations to a lower feeder voltage and/or finally at distribution sub-stations to 415/240 volts for supply to individual consumers. Some consumers take supply at feeder voltage.

Bruny Island is connected to the main power supply by a submarine cable; King and Flinders Islands are partly supplied by diesel-generation stations operated by the Commission at Currie and Whitemark respectively.

Retail Distribution

In the early days of the Commission's operation, consumers of electrical power received it from three sources: from municipalities with their own generating capacity; from municipalities retailing power bought from the Commission; and from the Commission direct. Gradually uniformity was achieved, municipalities stopped generating and retailing and the one authority became the sole supplier, both of bulk power to industry and retail power to homes, shops, businesses, etc. One effect has been uniformity in tariff charges for retail power so that the farmer on the most remote holding is charged no more than dwellers in the principal cities. Tasmania has achieved an Australian record figure for distribution of electrical power—it is estimated that nearly 99 per cent of homes and farms are now connected. Tariff charges are also the lowest in Australia.

The following table shows comparative average prices for power in the Commonwealth:

Price of Electric Power: Tasmania and Other States, 1969-70 (a)
(Cents per Kilowatt Hour)

State or Territory	Residential Sales	Commercial Sales	Industrial Sales	Average All Sales (b)
New South Wales	1.98	(c)	(c)	1.91
Victoria	2.08	3.23	1.75	2.13
Queensland	2.18	3.41	1.72	2.24
South Australia	1.66	2.74	1.46	1.80
Western Australia	2.33	(c)	(c)	2.24
Tasmania	1.52	1.92	0.59	0.81
Commonwealth Territories	2.07	(c)	(c)	2.39
Commonwealth (Average)	1.99	n.a.	n.a.	1.90

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

It will be observed that the Tasmanian average is the *lowest* and the householder pays less per unit on the average than his counterpart on the Australian mainland. The economy of hydro-electric generation can be best obtained by comparing the prices charged to industrial users. In 1971 Tasmanian power charges were increased by 17 per cent comprising a 12 per cent lift in retail tariffs plus a government tax of five per cent. The government tax was levied on H.E.C. revenue but was passed on by the Commission to consumers.

The following table shows the amount of power sold in the Commonwealth:

Sales of Electric Power: Tasmania and Other States, 1969-70 (a)
(Million Kilowatts Hours)

State or Territory	Residential Sales	Commercial Sales	Industrial Sales	Total Sales (b)
New South Wales	6,170	(c) 9,537		16,241
Victoria	3,994	1,694	4,387	10,407
Queensland	1,859	776	1,758	4,427
South Australia	1,422	500	1,558	3,505
Western Australia	792	(c) 1,097		1,916
Tasmania	785	156	3,597	4,551
Commonwealth Territories ..	308	(c) 433		760
Commonwealth Total	15,330	(c) 25,493		41,807

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by the Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

Finances of Hydro-Electric Commission

The table that follows shows the Commission's income and expenditure:

Hydro-Electric Commission: Income and Expenditure
('\$000)

Particulars	1967-68	1968-69	1969-70	1970-71
INCOME				
Sales—Bulk Power	8,676	12,986	15,233	17,168
Retail Current	18,707	20,221	21,472	22,540
Other Income	243	431	591	443
Total	27,626	33,638	37,296	40,151
EXPENDITURE				
Operation, Distribution, Administration	10,344	11,302	12,736	15,236
Interest on Loans and Reserves ..	15,785	17,679	19,736	22,350
Less Interest Capitalised	-2,508	-2,983	-3,617	-4,044
Depreciation Provision	3,578	4,025	4,285	4,544
Superannuation Contribution ..	912	999	1,091	1,398
Other Expenditure	495	803	864	586
Net Profit	-980	1,814	2,201	81
Total	27,626	33,638	37,296	40,151

All annual charges (interest, depreciation, operation, etc.) are borne by the Commission out of its revenues from the sale of electricity. There are no subsidies or other contributions from general State revenues.

Chapter 10

TRADE AND DISTRIBUTION

OVERSEAS AND INTERSTATE TRADE

Historical

The *Statistical Returns of Van Diemen's Land* and the *Statistics of Tasmania* provide a continuous series of total trade statistics dating from 1824 to 1909. Until the foundation of the Commonwealth in 1901, trade with other parts of Australia was recorded as originating from or being destined for 'British Colonies'; in other words, all Tasmanian sea trade was regarded as overseas. From Federation to 1909, statistics were collected and compiled by the newly formed Commonwealth Customs Department for *all* sea trade, but since 1910 only direct *over-seas* trade has been recorded by the Customs Department. In an island State, it became apparent that statistics of overseas trade alone were inadequate to record economic activity and, from 1922-23, the Government Statistician collected and published details of interstate trade; the collection of these data, now undertaken by the State Office of the Bureau of Census and Statistics, is carried out independently of the Customs Department and depends primarily on documents made available by Tasmanian Marine Boards and Harbour Trusts. In brief, there is a *total* trade series (1824-1909), an *overseas* trade series (1910 to 1921-22) and a *total* trade series (1922-23 to today).

In the immediate post-war period, there was a marked expansion of commercial aviation; the freight being carried was a component of interstate trade and steps were taken to record it, the first published figures appearing for 1949-50. Thus, the total trade of Tasmania is now recorded in three categories: (1) By Sea, Overseas; (2) By Sea, Interstate; (3) By Air, Interstate.

Value of Trade from 1824

Note on Currency

The pre-Federation details were recorded in sterling; subsequent details were recorded in £A which had parity with sterling until 1930 when devaluation made £A1.25 equal to the £ sterling. In 1949 the £ sterling was devalued by 30.5 per cent and the £A was correspondingly devalued to preserve the 1930-1949 relativity. In 1966 Australia changed to decimal currency, with \$A equal to £A0.5. In late 1967, the £ sterling was devalued from an equivalency of \$A2.51 to \$A2.151. The \$A was devalued by approximately 2.25 per cent against the £ sterling in 1971. The exchange rate between the \$A and the £ sterling is no longer fixed. From December 1971 the \$A bears a fixed relationship to the \$U.S. In the tables in this section, pre-1966 recorded figures have been converted to \$A by simply doubling the originals, *irrespective of their year of occurrence* and no account has been taken of changes in exchange rates.

Due to considerable and persistent changes in the purchasing power of money, it is extremely difficult to satisfactorily interpret any long-term statistical series expressed in money terms. The following table is therefore of interest historically but subject to all the disabilities (including devaluations of Australian currency) associated with long-term money series:

Total Value of Trade by Sea and Air: Historical Summary
(**\$'000**)

Year	Value of Imports				Value of Exports			
	By Sea		By Air	Total	By Sea		By Air	Total
	Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1824	<i>n.a.</i>	<i>n.a.</i>	..	124	<i>n.a.</i>	<i>n.a.</i>	..	30
1860	1,686	450	..	2,136	1,544	380	..	1,924
1880	738	2,000	..	2,738	1,568	1,456	..	3,024
1900	1,402	2,746	..	4,148	3,078	2,144	..	5,222
1910	1,662	(a)	..	<i>n.a.</i>	1,040	(a)	..	<i>n.a.</i>
1919-20 ..	1,626	(a)	..	<i>n.a.</i>	4,022	(a)	..	<i>n.a.</i>
1929-30 ..	3,668	16,028	..	19,696	4,978	13,198	..	18,176
1939-40 ..	3,188	21,780	..	24,968	4,852	20,954	..	25,806
1949-50 ..	18,704	51,218	(b) 10,670	80,592	29,936	42,672	(b) 3,996	76,604
1959-60 ..	27,606	130,014	19,210	176,830	47,730	137,530	20,818	206,078
1969-70 ..	(c) 46,998	257,441	20,551	(c) 324,989	143,470	286,083	26,287	455,840
1970-71 ..	45,719	269,022	19,777	334,519	143,198	277,669	27,103	447,970

(a) Collection discontinued for period 1910 to 1921-22.

(b) First collected in 1949-50.

(c) From 1965-66 the value of outside packages (approximately \$500,000 annually) is included in the value of overseas imports.

Definition of 'Overseas' and 'Interstate'

Statistics of overseas trade of Tasmania include details of goods landed directly from overseas or shipped directly to overseas ports; and, in addition, details of goods transhipped through other Australian States, *provided that the overseas import or export document has been lodged with Customs in Tasmania*. Statistics of interstate trade include details of goods landed in or shipped from other Australian States; and, in addition, details of goods transhipped through other Australian States, *provided that the overseas import or export document has been lodged with Customs in another Australian State*.

By way of example, a new Japanese car transhipped in Melbourne and discharged in Tasmania is classified as an item of interstate trade. Victoria, not Japan, is classified as the place of origin, provided that the overseas import document has been lodged with Customs in Victoria.

Effect of Motor Vehicles on Total Value of Imports and Exports

Import and export details of motor cars and commercial vehicles include tourist vehicles entering and leaving the State. The inauguration of a vehicular ferry service in October 1959 resulted in a sharp increase in the transport of vehicles as suggested in the following table:

Motor Cars and Commercial Vehicles (a): Value of Imports and Exports
(**\$'000**)

Particulars	1958-59	1959-60	1967-68	1968-69	1969-70	1970-71
Imports	19,258	29,148	49,053	46,982	54,191	59,062
Exports	3,654	13,100	21,359	21,084	25,998	27,087

(a) As well as new and used vehicles, includes business and tourist vehicles moving to and from the State.

Since Tasmanians do not carry out motor vehicle assembly on any extensive scale (and certainly not for export), it follows that total import and export values for 1970-71 are both inflated by approximately \$27m worth of vehicles, principally tourist, which entered and left the State. If vehicle exports are offset against imports, the net import figure will still include some used as well as new vehicles.

Source of Trade Statistics

Overseas trade statistics are compiled from documents obtained under the *Federal Customs Act 1901* and supplied to the Commonwealth Bureau of Census and Statistics by the Department of Customs and Excise. *Interstate sea* trade statistics are compiled from documents required under the authority of the *Marine Act 1921* and made available to the Tasmanian Office of the Bureau by the various Marine Boards and Harbour Trusts. Statistics of *interstate air* trade are compiled from returns furnished direct to the Tasmanian Office of the Bureau by all those who use this medium for the transportation of goods in commercial or industrial operations.

Values

The cost of importing goods into any country will theoretically contain four elements: (i) the 'original' price at door of factory, warehouse, etc.; (ii) the cost of delivering goods to the ship 'free on board'; (iii) sea freight and associated charges between ports; and (iv) cost of delivery from port to buyer.

Trade statistics base values on the first two elements but exclude the third and fourth, as set out in the following definitions:

The basis of value for overseas imports is 'transaction value, actual (*f.o.b.*)' or 'domestic value (*f.o.b.*)' if higher. Overseas exports are valued *f.o.b.* at the Australian port of shipment as follows: (i) for goods sold before export—the price at which the goods were sold; or (ii) for goods shipped on consignment—the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods were despatched. Interstate imports and exports are valued *f.o.b.* at the port of shipment.

Tasmanian Ports

Although there are eight port authorities (usually called marine boards or harbour trusts) in Tasmania, overseas trade is restricted to the ports of Hobart, Launceston, Burnie, Devonport and Stanley. (Exports of iron ore from Port Latta are credited to Stanley and exports of wood chips from Spring Bay are credited to Hobart.) The names of ports in subsequent tables refer to the towns in which the controlling port authorities are located. Thus 'Hobart' includes Port Huon, Spring Bay and, from 1 October 1970, Strahan; 'Launceston' includes Bell Bay and Beauty Point, etc.; 'Stanley' includes Port Latta; 'Currie' includes Naracoopa and Grassy; and 'Lady Barron' includes Whitemark.

This Chapter deals only with the imports and exports passing through these ports. For a description of the major ports and for the financial operations of the port authorities, see Chapter 11.

Total Trade of Tasmania

The following table shows Tasmanian total trade and its components in recent years:

Total Trade
(\$'000)

Year	Imports				Exports			
	By Sea		By Air	Total Imports	By Sea		By Air	Total Exports
	Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1965-66 ..	(a) 43,585	192,732	21,123	(a) 257,441	92,007	212,785	25,575	330,367
1966-67 ..	51,376	209,456	20,311	281,143	88,834	224,975	25,680	339,490
1967-68 ..	45,024	220,065	20,590	285,679	76,888	233,694	26,941	337,524
1968-69 ..	37,509	241,398	21,051	299,958	102,061	265,476	25,825	393,362
1969-70 ..	46,998	257,441	20,551	324,989	143,470	286,083	26,287	455,840
1970-71 ..	45,719	269,022	19,777	334,519	143,198	277,669	27,103	447,970

(a) From 1965-66 value of outside packages (approximately \$500,000) is included in the value of overseas imports.

It will be observed that interstate trade is the major element both in imports and exports. The next table shows the balance of trade (excess of exports over imports):

Balance of Trade (Sea and Air)

Year	Balance of Trade (Excess of Exports)		Year	Balance of Trade (Excess of Exports)	
	Total (\$'000)	Per Head of Mean Population (\$)		Total (\$'000)	Per Head of Mean Population (\$)
1960-61	9,918	28.33	1966-67	58,347	r156.31
1961-62	34,724	98.32	1967-68	51,845	r137.37
1962-63	30,324	84.66	1968-69	93,404	r244.23
1963-64	52,496	144.71	1969-70	130,851	r338.74
1964-65	78,957	215.51	1970-71	113,451	291.46
1965-66	72,926	197.31			

Overseas Trade by Sea

From the earliest days, the United Kingdom was Tasmania's main source of overseas imports. Up to 1967-68 it was also Tasmania's major overseas market. However, in recent years, trade with other countries has begun to assume greater importance and in 1968-69, the value of exports to Japan exceeded the value of exports to the United Kingdom for the first time. Details of Tasmania's trade with overseas countries for the past 11 years follow:

Total Value of Trade by Sea With Overseas Countries (\$'000)

Year	Value of Imports From—				Value of Exports To—			
	United Kingdom	United States of America	Japan	Other Overseas Countries	United Kingdom	United States of America	Japan	Other Overseas Countries
1965-66 (a) ..	9,935	8,014	5,673	19,963	26,067	14,398	7,970	43,572
1966-67 ..	8,886	10,735	7,385	24,370	20,913	15,737	10,291	41,893
1967-68 ..	13,357	6,835	5,374	19,458	20,219	9,566	9,005	38,098
1968-69 ..	8,705	5,629	5,708	17,467	17,267	16,216	24,362	44,216
1969-70 ..	10,563	6,636	5,309	24,490	24,363	19,945	43,465	55,697
1970-71 ..	6,098	7,269	5,419	26,933	20,574	18,427	54,999	49,198

(a) From 1965-66, the value of outside packages (approximately \$500,000) is included in the value of overseas imports.

Trade with Selected Countries

The principal countries of origin together with values (in \$m) for overseas imports shipped direct to Tasmania in 1970-71 were: U.S.A., 7.3; U.K., 6.1; Japan, 5.4; New Zealand, 5.1; Canada, 4.8; Sweden, 2.2; Federal Republic of Germany, 1.5. The principal countries of destination for overseas exports shipped direct from Tasmania (value in \$m) were: Japan, 55.0; U.K., 20.6; U.S.A., 18.4; India, 5.7; Thailand, 4.1; Hong Kong, 3.9; Federal Republic of Germany, 2.8; Netherlands, 2.7; Singapore, 2.7; France, 2.6.

The next table shows the trade of Tasmania with selected overseas countries; countries selected are those for which imports or exports approached or exceeded \$1m in any one of the three years under review, with the exception of countries for which figures are confidential. It should be noted that some goods are received from, or sent to, overseas countries by transshipment through other Australian States; no data are available on such transactions.

Trade With Overseas Countries
(\$'000)

Country of Origin or Destination	Imports (a)			Exports		
	1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
Belgium-Luxembourg ..	233	352	124	841	2,099	941
Canada	2,265	4,234	4,801	342	1,066	145
China (Taiwan) ..	3	6	30	617	830	1,421
China (Mainland) ..	453	232	27	1,164	3,873	517
France	164	219	504	2,986	2,356	2,626
Germany, East	8	24	16	21	64	2,109
Germany, West	1,898	2,381	1,523	4,743	4,801	2,815
Hong Kong	332	703	480	2,685	2,848	3,888
India	242	129	81	1,383	2,727	5,681
Indonesia .. ..	..	..	..	188	618	1,873
Italy	974	751	665	4,301	3,242	1,631
Japan	5,708	5,309	5,419	24,362	43,465	54,999
Malaysia	13	3	324	1,666	1,534	1,609
Mexico	1	1	10	988	507	153
Netherlands	346	532	603	4,502	5,866	2,721
New Zealand	3,999	3,501	5,108	1,763	1,625	1,941
Philippines .. ..	..	1	..	2,366	2,597	1,487
Poland	5	4	4	837	616	710
Singapore	5	5	291	2,320	2,367	2,660
South Africa	227	261	635	379	708	750
Sweden	2,165	2,909	2,184	949	1,308	1,112
Tanzania .. ..	..	..	..	130	538	1,480
Thailand	5	48	78	4,958	5,252	4,142
Turkey	25	143	177	..	2,299	..
United Kingdom ..	8,705	10,563	6,098	17,267	24,363	20,574
U.S.A.	5,629	6,636	7,269	16,216	19,945	18,427
Yugoslavia .. ..	..	1	1	479	1,549	1,567
Other Countries ..	4,009	7,985	7,608	3,607	4,407	5,219
'For Orders' (b) ..	..	..	..	1	..	..
Origin Unknown ..	85	46	46	..	..	..
Australia (Re-Imported)	10	19	1,613	..	..	..
Total	37,509	46,998	45,719	102,061	143,470	143,198

(a) Value of outside packages included: 1968-69, \$474,000; 1969-70, \$566,000; 1970-71, \$423,000.

(b) Country of consignment not determined at the time of export.

Tasmanian and Australian Overseas Trade

The following table compares Australia's total overseas imports and exports with the corresponding values for Tasmania; by using a per capita comparison, certain conclusions can be drawn about the relative importance of Tasmania's overseas exports bearing in mind that Tasmania's figures are understated and Australia's correspondingly inflated in respect of transshipments not recorded as *overseas* trade for Tasmania.

Value of Overseas Trade: Tasmania and Australia

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
IMPORTS					
Australia—Total \$'000	3,045,341	3,264,473	3,468,505	3,881,227	4,150,073
Per Head \$	r260.3	r274.3	r285.9	r313.4	328.5
Tasmania—Total \$'000	51,376	45,024	37,509	46,998	45,719
Per Head \$	r137.6	r119.3	r98.1	r121.7	117.5

Value of Overseas Trade: Tasmania and Australia—*continued*

Particulars				1966-67	1967-68	1968-69	1969-70	1970-71
EXPORTS								
Australia—Total	\$'000			₣3,024,158	3,044,675	₣3,374,263	₣4,135,300	4,374,681
Per Head	\$			₣258.5	₣255.8	₣278.2	₣333.9	346.3
Tasmania—Total	\$'000			88,834	76,888	102,061	143,470	143,198
Per Head	\$			₣238.0	₣203.7	₣266.9	₣371.4	367.9

The relatively low value of overseas imports per head of Tasmanian population is due largely to the transshipment of goods in other Australian ports. Since some goods go overseas from Tasmania by transshipment and are therefore *not* recorded as Tasmanian overseas exports, the export comparisons *per head* of Australian and Tasmanian populations suggest that the State plays an important role as an earner of export income.

Interstate Trade by Air

No data are compiled to show State of origin or State of destination for trade by air; most planes carrying commercial freight, in connection with Tasmanian trade, take off from or land in Victoria. The following is a summary of Tasmania's air trade for recent years:

Value of Interstate Air Trade
(\$'000)

Particulars				1966-67	1967-68	1968-69	1969-70	1970-71
Imports				20,311	20,590	21,051	20,551	19,777
Exports				25,680	26,941	25,825	26,287	27,103
Total				45,991	47,531	46,876	46,838	46,880

Interstate Trade by Sea

As might be expected with Melbourne being the closest major port to Tasmania, the bulk of the island's interstate trade is transacted with Victoria. The next table shows the value of interstate sea trade with other Australian States. Imports include the value of some goods imported into other States from overseas and transhipped to Tasmania; exports include the value of some goods exported to other States for transshipment overseas.

Value of Interstate Sea Trade
(\$'000)

Australian State or Territory of Origin or Destination	Imports			Exports		
	1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
New South Wales ..	45,620	47,156	46,586	102,511	111,692	102,829
Victoria	165,474	177,509	208,810	137,776	148,352	179,636
Queensland	(a) 9,582	(a) 9,650	(a) 10,332	9,097	9,080	9,240
South Australia ..	18,430	19,392	19,087	11,811	12,885	9,215
Western Australia ..	2,291	3,735	3,985	4,281	4,074	3,850
Northern Territory ..	n.p.	n.p.	n.p.	..	..	2
Total	241,398	257,441	288,799	265,476	286,083	304,771

(a) Includes the value of manganese ore imported from the Northern Territory. Details are not available for separate publication.

Sea Trade of Tasmanian Ports

In the following table, the value of total imports and exports by sea is shown for each port:

Total Value of Sea Trade Classified According to Port
(\$'000)

Port	Imports		Exports		Total Sea Trade	
	1969-70	1970-71	1969-70	1970-71	1969-70	1970-71
Burnie	56,814	54,635	91,468	106,518	148,282	161,153
Devonport	69,948	64,601	58,589	54,712	128,537	119,313
Hobart	98,910	100,167	142,775	134,221	241,685	234,387
Currie	2,827	4,261	6,576	7,913	9,403	12,173
Launceston	73,301	88,669	92,349	90,869	165,650	179,538
Stanley	1,919	1,629	26,485	25,962	28,404	27,591
Strahan	709	763	10,276	..	10,986	763
Lady Barron	10	17	1,034	672	1,044	689
Total	304,438	314,741	429,553	420,867	733,991	735,608

The next table compares the proportion of total sea trade values attributed to each port (using 1958-59 for comparison):

Total Value of Sea Trade: Port Proportions
(Per Cent)

Port	1958-59	1966-67	1967-68	1968-69	1969-70	1970-71
Burnie	15.3	19.0	20.1	19.7	20.2	21.9
Devonport	26.8	19.6	20.2	18.9	17.5	16.2
Hobart	50.8	34.8	33.6	33.5	32.9	31.9
Currie	0.5	1.3	1.4	1.7	1.3	1.7
Launceston	23.5	22.7	21.2	21.4	22.6	24.4
Stanley	0.6	0.2	0.5	3.1	3.9	3.7
Strahan	2.4	2.3	3.0	1.5	1.5	0.1
Lady Barron .. ..	..	..	..	0.2	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0

The decline in the proportion of sea trade attributed to Hobart since 1958-59 is related to the increasing use of 'sea-road' facilities available through the ports of Devonport, Launceston and Burnie. The vessels involved in the 'sea-road' service to northern and north-western ports are the *Bass Trader* and *Empress of Australia*. The *Princess of Tasmania*, which inaugurated this type of service between Melbourne and Devonport in October 1959, was replaced by the *Empress of Australia* in June 1972. In June 1964 similar facilities became available at Hobart when the *Seaway Queen* began a sea-road service to Melbourne, followed in September 1964 by the *Seaway King* operating a direct service to Sydney. These two vessels now alternate in providing regular Melbourne-Hobart and Sydney-Melbourne-Hobart services. The *Empress of Australia* which had provided a regular service since January 1965 with Sydney-Hobart-Sydney as one route and Sydney-Bell Bay-Burnie-Sydney as the other, was withdrawn in April 1972 for re-fitting prior to replacing the *Princess of Tasmania* on the Bass Strait run. The *Empress of Australia* was replaced immediately by the *Australian Trader* which had served northern ports regularly since mid-1969. In October 1971 another roll-on roll-off type vessel, the *Mary Holyman*, commenced a regular service between South Australia and Tasmania with Port Adelaide-Hobart as one route and Port Adelaide-Burnie as the other. Several other vessels (e.g. *Sydney Trader*, *Brisbane Trader*) provide, as required, irregular sea-road services between the four main Tasmanian ports and other Australian States.

Air Trade of Tasmanian Airports

Although Tasmania has a number of airports, only six are used on a regular basis for interstate trade; four are located near Hobart, Launceston, Burnie and Devonport respectively and the remaining two on King and Flinders Islands.

The following table shows the value of interstate air trade passing through Tasmanian airports:

Total Value of Interstate Air Trade Classified According to Airport
(\$'000)

Airport	Imports		Exports		Total Air Trade	
	1969-70	1970-71	1969-70	1970-71	1969-70	1970-71
Hobart	10,334	9,764	4,013	4,097	14,347	13,861
Launceston	6,221	6,182	21,238	22,005	27,459	28,187
Devonport	1,562	1,400	243	230	1,805	1,630
Wynyard (a)	1,588	1,626	181	181	1,769	1,807
King Island	574	530	481	459	1,055	989
Flinders Island	272	275	131	132	403	406
Total	20,551	19,777	26,287	27,103	46,838	46,880

(a) Includes Smithton.

The percentage of the total value of air trade passing through each Tasmanian airport in 1970-71 was: Hobart, 29.6; Launceston, 60.1; Wynyard, 3.9; Devonport, 3.5; King Island, 2.1; Flinders Island, 0.9.

Commodities Carried by Air

It will be observed that the value of trade by air is about six per cent of the value of total trade by sea and air combined. With regard to exports by air (valued at \$27,103,000 in 1970-71), the major group was 'Textile and Yarns' valued at \$25,473,000; exports of all foodstuffs (meat, Rock Lobster, fruit, etc.) accounted for a further \$881,000. For imports there is a much greater range of commodities involved, the chief group being 'Clothing and Footwear' valued at \$12,037,000.

The annual values of both imports and exports by air has not varied appreciably over the past 10 years, which means that the quantities of goods involved has almost certainly declined because of the general increase in prices over the period. A possible explanation is the improvement in sea carriage techniques (roll-on roll-off vessels, container vessels, etc.) and improved shipping schedules.

The following table shows the value of imports to and exports from Tasmania by air for the past 10 years:

Air Trade: Value of Interstate Imports and Exports
(\$'000)

Year	Imports	Exports	Year	Imports	Exports
1961-62	18,000	23,298	1966-67	20,311	25,680
1962-63	18,158	21,602	1967-68	20,590	26,941
1963-64	19,840	23,424	1968-69	21,051	25,825
1964-65	20,819	25,770	1969-70	20,551	26,287
1965-66	21,123	25,575	1970-71	19,777	27,103

Imports of Principal Commodities

The next table shows the value of the principal commodities imported into Tasmania by sea and air for a four-year period:

Imports of Principal Commodities by Sea and Air: Values
(\$'000)

Commodity	1967-68	1968-69	1969-70	1970-71
Beer, Wine and Spirits	3,730	3,972	4,085	4,313
Aluminium Oxide	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Clothing and Accessories	13,189	13,453	13,855	13,478
Cocoa Beans and Cocoa Butter	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Footwear	3,042	3,431	3,627	3,767
Machinery—Electrical	15,031	13,887	15,439	14,663
Other	25,003	20,735	24,589	19,580
Metal Manufactures	8,090	8,465	8,770	8,355
Metals	14,499	13,760	14,767	14,864
Motor Vehicles—New	27,541	25,863	28,513	32,567
Other (a)	21,512	21,119	25,678	26,495
Ores and Concentrates—Zinc	5,267	6,160	6,995	7,594
Other	4,263	3,316	5,047	3,686
Paper and Paper Manufactures	8,667	8,819	8,314	8,000
Petroleum Products—Motor Spirit	8,169	8,502	8,314	8,335
Fuel Oils	9,060	11,354	11,267	12,059
Other	4,519	5,599	5,543	7,221
Pulp for Paper-making	5,734	6,346	8,332	10,619
Rubber Manufactures	4,748	4,960	4,959	5,114
Sugar, Refined	4,426	4,104	4,376	4,344
Textile Yarn and Fabrics	9,696	12,294	12,823	12,391
Tobacco and Cigarettes	13,275	13,670	13,428	13,392
Wheat	3,283	3,200	2,852	2,907
Wool, Greasy	3,544	2,313	2,862	2,113
Other (b)	69,391	84,636	90,555	98,662
Total Imports	285,679	299,958	324,989	334,519

(a) Mainly tourist and other motor vehicles imported as personal effects.

(b) Includes value details marked '*n. p.*'.

The table that follows shows the quantities of the principal commodities imported and has been compiled, as far as this is practicable, to match the preceding table of values:

Imports of Principal Commodities by Sea and Air: Quantities

Commodity	Unit of Quantity	1967-68	1968-69	1969-70	1970-71
Alcoholic Beverages—					
Ale, Beer, Stout and Cider	gal	454,272	550,302	620,352	691,781
Wine	gal	528,584	543,335	548,893	519,612
Spirits and Liqueurs—Overseas	pr gal	17,762	26,302	15,446	18,792
Interstate	gal	179,846	171,620	177,783	181,089
Aluminium Oxide	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Cocoa Beans and Cocoa Butter	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Iron and Steel	ton	100,351	92,509	99,911	99,488
Motor Vehicles—New	no.	14,659	13,550	13,692	14,111
Other (a)	no.	13,728	13,548	16,473	16,956
Ores and Concentrates—Zinc	ton	206,848	228,712	261,326	273,176
Other	ton	257,459	218,803	321,493	292,039
Petroleum Products—					
Motor Spirit	'000 gal	69,701	70,303	70,518	69,996
Fuel Oils	'000 gal	88,945	114,908	118,442	133,282
Pulp for Paper-making	ton	54,312	63,026	72,150	82,845
Sugar, Refined	ton	24,198	23,065	24,446	24,001
Tobacco and Cigarettes	'000 lb	2,344	2,393	2,254	2,262
Wheat	ton	52,998	51,234	48,819	52,479
Wool, Greasy	'000 lb	5,687	3,861	4,754	4,082

(a) Mainly tourist and other motor vehicles imported as personal effects.

Imports from Principal Overseas Countries

The next table shows the value of imports, by commodities, from principal overseas countries:

Value of Imports from Principal Overseas Countries
(\$'000)

Commodity	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
UNITED KINGDOM						
Chemicals	593	575	662	455	307	456
Electrical Machinery ..	546	742	1,557	2,294	694	651
Food, Beverages and Tobacco	379	360	278	254	288	207
Iron and Steel	224	150	190	250	145	135
Machinery, Other than Electric	3,175	2,263	6,408	1,881	5,404	1,400
Metal Manufactures ..	581	362	209	241	283	285
Printed Matter	477	480	419	462	287	251
Textile Fibres	882	596	353	283	339	320
Textiles	1,218	1,016	1,290	1,128	1,041	828
Tyres and Tubes	127	124	168	178	151	247
Scientific Equipment ..	76	78	88	105	162	141
White Clays	219	178	122	226	271	321
Other	1,438	1,962	1,613	948	1,191	856
Total	9,935	8,886	13,357	8,705	10,563	6,098
UNITED STATES OF AMERICA						
Bentonite .. ..	..	..	107	146	341	210
Chemicals	1,152	1,232	860	548	685	167
Electrical Machinery ..	142	1,384	114	184	115	397
Machinery, Other than Electric	2,517	4,438	2,736	1,658	2,677	1,673
Paper and Paperboard ..	1	1	70	36	7	132
Petroleum Coke	874	937	628	850	748	1,680
Textiles	699	234	255	257	266	227
Transport Equipment ..	215	157	107	394	202	213
Woodpulp for Paper-making	1,336	854	1,134	895	971	1,839
Other	1,078	1,498	824	661	624	731
Total	8,014	10,735	6,835	5,629	6,636	7,269
JAPAN						
Chemicals	126	37	523	284	403	1,420
Cocoa Butter .. ..	..	..	..	n.p.	n.p.	n.p.
Commercial Road Transport Vehicles	228	223	230	450	263	204
Electrical Machinery ..	66	641	242	203	711	782
Machinery, Other than Electric	63	888	1,022	1,376	667	226
Motor Cycles	7	42	97	68	91	166
Passenger Motor Cars ..	647	540	999	770	483	653
Textiles	1,154	1,128	1,376	1,965	1,746	1,091
Tyres and Tubes	183	174	169	141	..	177
Other (a)	3,199	3,712	716	451	945	700
Total	5,673	7,385	5,374	5,708	5,309	5,419

Value of Imports from Principal Overseas Countries—continued
(\$'000)

Commodity	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
NEW ZEALAND						
Chemicals	12	18	31	35	38	155
Grass and Field Seeds ..	260	194	200	381	117	98
Machinery and Transport Equipment	20	29	56	62	96	142
Paper and Paperboard ..	716	629	690	683	330	403
Textiles	10	41	83	88	189	691
Wood Pulp for Paper-making	1,896	2,358	1,615	2,275	2,306	3,260
Other	211	444	579	475	425	359
Total	3,125	3,713	3,254	3,999	3,501	5,108

(a) Includes value details for items not available for separate publication.

Exports of Principal Commodities

The following table shows the value of principal commodities exported from Tasmania by sea and air:

Exports of Principal Commodities by Sea and Air: Values
(\$'000)

Commodity	1968-69	1969-70	1970-71
Butter (including Butter Oil)	5,129	6,950	5,954
Cheese	884	2,957	2,589
Fish, Crustaceans and Molluscs	3,511	3,562	3,892
Fruit—Apples (Fresh)	12,276	13,976	12,687
Pears (Fresh)	878	929	787
Processed	2,434	2,019	1,795
Hops	2,040	2,380	2,218
Live Animals (Cattle, Sheep and Pigs)	3,389	3,212	2,146
Meat—Beef and Veal	4,691	7,729	6,583
Lamb and Mutton	1,683	2,560	2,212
Other	1,615	1,485	1,912
Vegetables, Fresh and Preserved	16,331	15,555	13,241
Other Food, Live Animals and Beverages	30,664	30,346	30,625
Fertilisers, Manufactured	1,455	1,565	2,232
Hides and Skins (Cattle, Calf and Sheep)	3,059	2,801	2,546
Metal Manufactures (including Machinery)	6,883	7,116	8,632
Metals, Refined—Cadmium	1,386	1,900	1,871
Copper	8,820	9,783	37
Zinc	34,006	42,625	38,163
Motor Cars and Commercial Vehicles (a)	21,084	25,998	27,087
Ores and Concentrates—Copper	296	8,369	24,253
Iron	17,126	25,286	24,935
Tungsten	6,200	5,886	7,888
Lead	6,164	7,358	5,823
Tin	11,538	16,207	18,088
Pigments, Paints and Varnishes	11,218	14,663	11,328
Textile Yarn, Fabrics and Made-up Articles	27,563	27,784	28,425
Timber, Dressed and Undressed	15,329	16,238	17,201
Wool, Greasy	18,592	17,821	14,350
Commodities not Available for Publication (b)	105,470	122,105	115,029
All Other Exports	11,648	8,675	13,441
Total Exports	393,362	455,840	447,970

(a) Mainly tourist and other motor vehicles exported as personal effects.

(b) Commodities comprising this item are: aluminium, alumina, ferro-manganese, silicon-manganese, calcium carbide, cement, asbestos-cement articles, paper, paper pulp, hardboard, plywood, woodchips and confectionery.

The next table shows the quantities of the principal commodities exported and has been compiled, as far as this is practicable, to match the preceding table of values:

Exports of Principal Commodities by Sea and Air: Quantities

Commodity (a)	Unit of Quantity	1968-69	1969-70	1970-71
Butter (including Butter Oil)	cwt	181,949	248,238	209,904
Cheese	cwt	37,988	143,048	123,203
Fish—Rock Lobster	cwt	14,049	13,952	11,269
Other (including Molluscs)	cwt	38,033	37,511	34,772
Fruit—Apples (Fresh)	'000 lb	197,368	225,963	201,683
Pears (Fresh)	'000 lb	14,810	15,188	11,438
Preserved	'000 lb	15,253	12,488	12,226
Pulped	'000 lb	2,621	2,377	1,970
Dried	'000 lb	761	728	517
Hops	'000 lb	2,584	3,017	3,029
Live Animals—Cattle	no.	18,117	17,272	15,736
Sheep	no.	136,849	136,784	80,172
Pigs	no.	952	669	490
Meat—Beef and Veal	cwt	122,858	178,092	146,143
Lamb and Mutton	cwt	80,273	113,119	107,986
Pork	cwt	30,382	25,082	37,668
Vegetables, Fresh and Preserved	tons	72,552	56,212	54,077
Fertilisers, Manufactured	tons	26,341	27,613	31,360
Hides and Skins—Cattle and Calf	cwt	48,083	52,663	52,009
Sheep	'000 lb	8,793	7,135	8,180
Metals, Refined—Cadmium	tons	298	388	352
Copper	tons	10,651	7,210	26
Zinc	tons	137,276	161,259	140,500
Motor Cars and Commercial Vehicles (b)	no.	13,489	16,821	17,332
Ores and Concentrates—Copper	tons	1,416	32,310	92,365
Iron	tons	1,367,463	2,059,784	2,030,353
Lead	tons	27,597	29,889	23,032
Tin	tons	7,270	10,215	11,441
Tungsten	tons	2,186	2,065	2,126
Timber, Dressed and Undressed	'000 sup ft	82,609	87,824	85,002
Wool, Greasy	'000 lb	34,830	36,406	37,800

(a) Principal commodities not available for publication comprise: aluminium, alumina, ferro-manganese, silicon-manganese, calcium carbide, cement, asbestos-cement articles, paper, paper pulp, hardboard, plywood, woodchips and confectionery.

(b) Mainly tourist and other motor vehicles exported as personal effects.

Exports of Selected Commodities

The following table shows, in summary form, total exports of some important commodities for selected years since 1939-40:

Exports of Selected Commodities by Sea and Air

Commodity	Unit of Quantity	1939-40	1949-50	1959-60	1969-70	1970-71
QUANTITY						
Butter (including Butter Oil)	cwt	55,428	42,886	154,789	248,238	209,904
Apples and Pears, Fresh	'000 lb	163,964	125,468	177,876	241,151	213,121
Meat, Fresh or Frozen	cwt	48,885	18,750	181,261	336,280	310,123
Hides and Skins	cwt	62,195	57,296	101,304	116,369	125,047
Refined Copper	tons	11,738	4,253	7,624	7,210	26
Refined Zinc	tons	70,909	80,704	113,853	161,259	140,500
Ores and Concentrates	tons	135,052	89,148	84,635	2,140,237	2,168,599
Wool, Greasy	'000 lb	9,092	9,101	27,977	36,406	37,800
Timber (Dressed and Undressed)	'000 sup ft	50,858	62,136	75,403	87,824	85,002

Exports of Selected Commodities by Sea and Air—continued

Commodity	Unit of Quantity	1939-40	1949-50	1959-60	1969-70	1970-71
VALUE (\$'000)						
Butter (including Butter Oil)	742	1,278	5,390	6,950	5,954
Fish, Crustaceans and Molluscs	68	732	1,362	3,562	3,892
Apples and Pears, Fresh	2,270	4,348	9,490	14,905	13,474
Meat, Fresh or Frozen	310	312	3,788	11,774	10,706
Hides and Skins	251	1,199	3,028	2,801	2,546
Refined Copper	1,416	1,478	5,022	9,783	37
Refined Zinc	2,856	9,964	22,922	42,625	38,163
Ores and Concentrates	2,144	4,076	5,952	63,478	81,604
Textile Yarn and Fabrics	2,674	5,540	17,524	27,784	28,425
Wool, Greasy	1,376	6,202	15,254	17,821	14,350
Timber (Dressed and Undressed)	1,238	2,930	8,952	16,238	17,201

Exports to Principal Overseas Countries

Details for commodities exported to principal overseas countries are given in the next table:

Exports to Principal Overseas Countries

Commodity	Unit of Quantity	Quantity			Value (\$'000)		
		1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
JAPAN							
Abalone	'000 lb	896	836	752	402	443	569
Copper Ores and Concentrates	tons	..	20,005	74,907	..	5,590	19,195
Iron Ores and Concentrates	'000 tons	1,367	2,060	2,030	17,126	25,286	24,935
Lead Ores and Concentrates	tons	2,034	7,568	6,354	350	1,499	1,341
Meat, Fresh, Chilled or Frozen	cwt	22,589	34,031	45,909	466	658	849
Tallow	cwt	7,336	37,929	61,062	32	229	487
Wool, Greasy	'000 lb	6,534	8,824	8,737	3,194	4,206	3,479
Other (a) .. .. .	..	..	..	..	2,792	5,554	4,144
Total .. .. .	..	..	..	..	24,362	43,465	54,999

UNITED KINGDOM

Apples, Fresh	'000 lb	90,335	123,908	94,281	5,740	7,446	5,909
Butter	cwt	139,729	195,209	141,914	3,707	5,183	3,761
Cadmium, Refined	cwt	1,600	2,648	1,488	441	769	403
Cheese	cwt	21,699	97,915	85,638	408	1,841	1,610
Copper Ores and Concentrates	tons	..	1,914	5,409	..	355	1,055
Meat, Fresh, Chilled or Frozen	cwt	33,661	46,243	55,415	650	1,081	1,232
Pears, Fresh	'000 lb	12,517	11,135	7,139	743	659	447
Tin Ores and Concentrates	tons	151	960	1,928	68	509	1,096
Wool, Greasy	'000 lb	3,275	3,217	1,868	1,618	1,306	605
Zinc, Refined	tons	11,680	18,032	14,313	2,890	4,460	3,578
Other .. ..	..	..	..	..	1,002	754	878
Total .. ..	..	..	..	..	17,267	24,363	20,574

Exports to Principal Overseas Countries—*continued*

Commodity	Unit of Quantity	Quantity			Value (\$'000)		
		1968-69	1969-70	1970-71	1968-69	1969-70	1970-71
UNITED STATES OF AMERICA							
Lead Ores and Concentrates	tons	25,408	22,074	16,647	5,789	5,821	4,475
Meat, Fresh, Chilled or Frozen	cwt	112,783	165,244	124,766	4,261	7,244	5,881
Rock Lobster	'000 lb	376	374	410	949	883	1,096
Zinc, Refined	tons	17,845	18,883	20,214	3,985	4,484	5,721
Other .. .. .	..	..	..	..	1,232	1,513	1,254
Total .. .. .	..	..	..	..	16,216	19,945	18,427
THAILAND							
Butter	cwt	9,704	11,501	18,274	247	268	376
Zinc, Refined	tons	11,304	11,960	10,161	2,611	3,134	2,699
Other (a) .. .. .	..	..	..	..	2,100	1,850	1,067
Total .. .. .	..	..	..	..	4,958	5,252	4,142

(a) Includes item(s) for which details are not available for separate publication.

RETAIL TRADE IN TASMANIA

Censuses of Retail Establishments

Historical

Before the Integrated Economic Censuses of 1968-69, retail censuses were undertaken for the years ended 30 June 1948, 1949, 1953, 1957 and 1962. The information collected in each census was extensive and provided details of retail trading in local government areas, in statistical divisions, and in special 'statistical retail' areas. The census information was also used as a bench-mark for designing a sample representative of all retail establishments for the purpose of quarterly surveys; estimates of the value of retail sales, based on these surveys, have been calculated for each quarter since the 1961-62 census and are continuing.

Details of the Census of Retail Establishments 1961-62 appeared in the 1969 and 1970 *Year Books*. The Census of Retail Establishments 1968-69 was conducted as part of a larger project, the Integrated Economic Censuses 1968-69, when five sectors of the economy were required to make simultaneous returns: Manufacturing; Mining; Wholesaling; Retailing; and Electricity and Gas. The results of these censuses are shown in the special Appendix to this Chapter; from the comparative tables in the Appendix it is possible to measure the economic significance of retailing against that of manufacturing, mining, wholesaling, and electricity and gas. Attention is also called to the special Appendix to Chapter 8 where the primary industries (excluding mining) are compared with each other using value definitions conceptually allied to those employed in the Chapter 10 Appendix.

Census of Retail Establishments, 1968-69

Introduction

Full Title: The full title of this census was Census of Retail Establishments and Selected Service Establishments. Previous censuses also included some service type activities.

Change in Method: As related in the previous section of this Chapter, censuses of retail establishments and other services were conducted for the years ended 30 June 1948, 1949, 1953, 1957 and 1962. The year 1968-69 was covered by five simultaneous censuses, the sectors comprising: (i) retail trade; (ii) wholesale trade; (iii) manufacturing; (iv) electricity and gas industries; and (v) mining.

The Integrated Economic Censuses 1968-69 are fully described in Appendix A of the 1972 *Year Book* where there is an explanation of the need to end the 'old-style' retail censuses and to start a new series, based on new operating unit concepts and new data concepts. In this section, it is intended to give the preliminary results of the 1968-69 retail census for Tasmania, to point out differences between the old-style and new-style censuses but not to discuss reasons for the change (these are set out in Appendix A of the 1972 *Year Book*).

Definition of Retail Establishments

All Activities at One Location: In all the 1968-69 censuses, the basic unit, in general, covered all the operations carried on under the one ownership at a single physical location. The *retail establishment* is thus one predominantly engaged in retailing, but the data supplied for it now encompasses all activities at the location. It covers:

- (i) the retailing activity which is the predominant activity at the location;
- (ii) any wholesaling activity at the location; and
- (iii) any manufacturing or other activities at the location.

Exceptions to this total coverage rule are made where the secondary or subsidiary activity (in terms of gross value) exceeds \$1m, and such locations are treated for statistical purposes as two or more establishments corresponding to the various kinds of activity carried on.

Administrative Offices and Ancillary Units: The retail establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the enterprise which owns and operates the establishment. Such units include head offices, storage premises, transport depots and motor vehicle repair and maintenance workshops. Their inclusion in the statistics does not inflate the number of establishments, e.g. a separate storehouse serving only a particular shop and the shop itself are counted as one establishment, classified according to the industry of the shop.

Effects of New Classification

The establishment's classification is based on the Australian Standard Industrial Classification (ASIC). ASIC defines the industries in the economy for statistical purposes and specifies the scope of the different economic censuses without gaps or overlaps. The adoption of ASIC has resulted in changes in scope between the 1968-69 retail census and the earlier retail censuses. The main changes in scope for 1968-69 are as follows:

(i) Motion picture theatres, licensed clubs and laundry and dry cleaning services were added to the 'selected services' group (details were obtained in supplementary collections for 1961-62 but not included in the main retail statistics).

(ii) Activities previously reported in both manufacturing and retail censuses are, by definition, allocated exclusively to the retail sector (i.e. if these defined activities were the establishment's major activity). Such activities include: (a) motor vehicle repairs; dry cleaning; shoe repairs; and tyre retreading; (b) custom dressmaking and custom tailoring; clothing repair and alterations; making up and repair of blinds, awnings and curtains; repair of domestic appliances; panel beating and smash repairs; watch and clock repairs; jewellery repairs; and baking of cakes in cake shops. (Group (b) was only included in the 1961-62 retail census if carried on at establishments also making retail sales.) With the adoption of the new criterion of major activity and the use of ASIC, no establishment is required to supply returns in more than one census and all establishments mainly engaged in the above activities are now included in the retail census only.

It will be seen that the service activities reported in the 1968-69 retail census are very much the same as in the past.

(iii) Some changes are due to the concept of major activity. Previous retail censuses covered the retailing activities of all establishments which normally sold goods by retail to the general public from rooms, kiosks and yards, irrespective of what their main activity may have been. The 1968-69 retail census excludes locations where the main activity is something other than retailing.

(iv) Some changes in scope are not related to the introduction of ASIC. For example, bread vending and milk vending by independent vendors mainly engaged in retailing bread or milk by home service delivery are included for the first time.

(v) The basic definition of 'retail trade' remains the same: the resale of new and used goods to final consumers for personal and household consumption.

New Data Concepts

The introduction of new standardised data items in all census sectors has involved changes in the content of retail statistics. The new items are defined as follows:

The Value of Turnover: *Equals* sales of goods owned by the enterprises; *plus* all other operating income; *plus* goods withdrawn from stock for own use as fixed tangible assets or for rental or lease.

In the above definition, all other operating income *includes* commission, repair, servicing revenue, takings from meals and accommodation, hairdressing, theatre admissions, etc. but *excludes* rents, leasing revenue, interest (other than from hire purchase), royalties and receipts from the sale of fixed tangible assets.

Purchases and Selected Expenses: *Equals* purchases of goods for resale and materials for manufacturing; *plus* transfers in from establishments of the enterprise other than retail establishments; *plus* charges for commission and sub-contract work; *plus* purchases of wrapping and packaging materials, electricity and fuel; *plus* repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, and sales commission payments.

The Value Added: *Equals* turnover *plus* increase (or *less* decrease) in the value of stocks *less* purchases and selected expenses.

Value added is the appropriate measure for comparing various industries and can be added for groups of industries without there being any possibility of duplication. Such a comparison appears as an Appendix to this Chapter.

Transfers: It will be seen that 'transfers out' is not included in the definition of 'turnover'. Transfers of goods between retail establishments of the same enterprise are deducted from the purchases item in the return of the supplying establishment and added to purchases in the receiving establishment's return.

Preliminary Results 1968-69

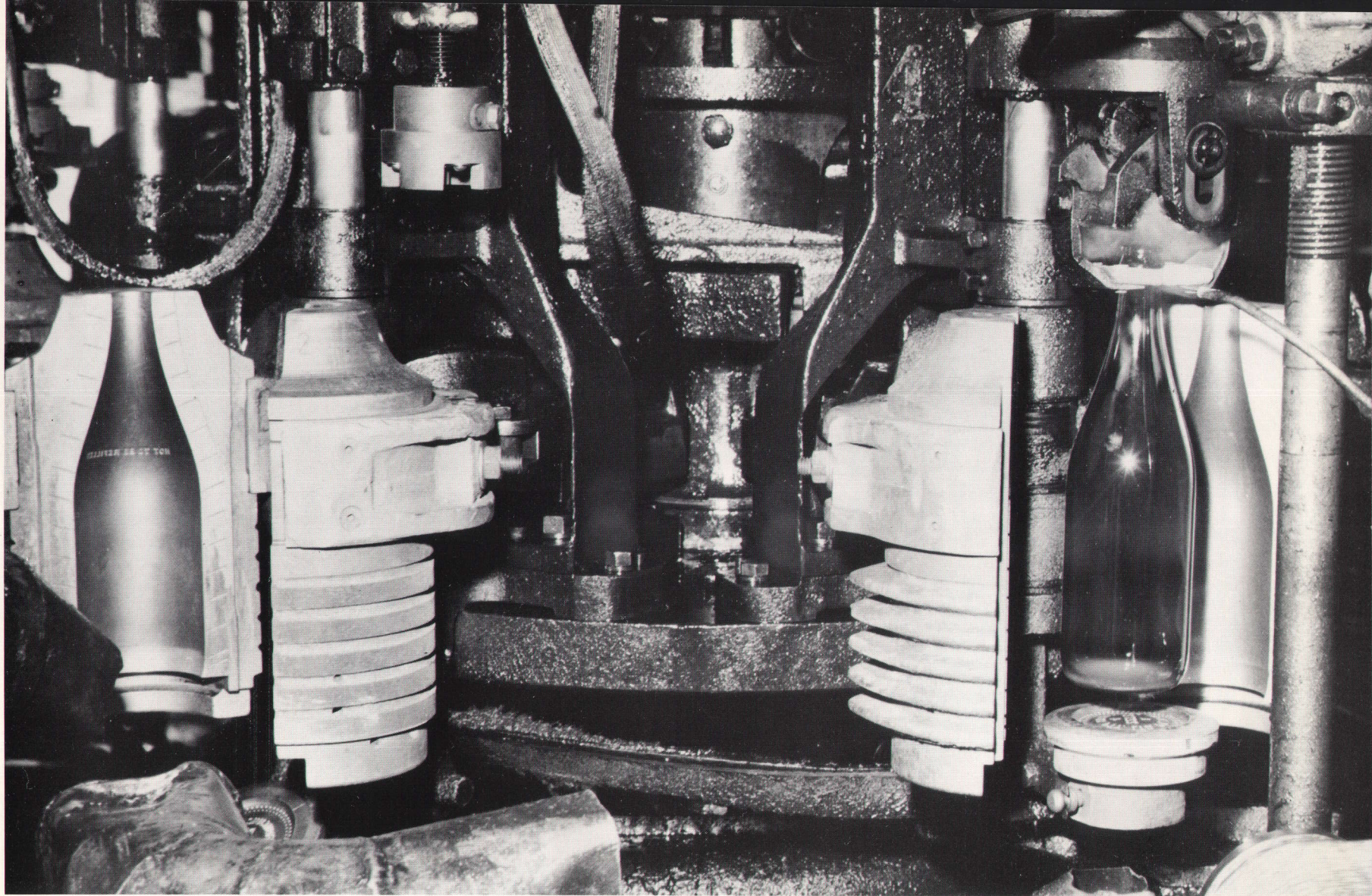
The tables that follow give preliminary results for Tasmania in the 1968-69 retail census. The results are subject to revision and two elements have not been taken into the calculation of turnover, namely bounties and subsidies, and goods withdrawn from stock for own use, or for rental or lease. Because of this fact, the term, 'turnover' is not used in the tables, the substitute being 'sales and other operating revenue'. Other work needed to achieve final results includes: (i) further splitting of multi-activity location returns where the secondary activity exceeds \$1m in gross value; and (ii) further detailed industry classification.

Non-comparability: Direct comparisons with the results of previous retail censuses cannot be made because of changes in the census units, the scope of the census and the items of data. The same observation applies to estimates obtained from the current monthly and quarterly retail surveys which are conceptually tied to pre-1968-69 censuses.



Head-frame, Prince Lyell No. 1 Shaft, Mt Lyell

[Dept of Film Production]



Take-out position on bottle-forming machine (Australian Glass Manufacturers)

[Penny Cresswell and Associates]

Census of Retail Establishments and Selected Services, 1968-69
Preliminary Summary of Operations by Industry Group

Industry Group	ASIC Code (a)	Establishments Operating During 1968-69	Persons Employed (b)			Wages and Salaries
			Males	Females	Persons	
		no.	no.	no.	no.	\$m
Department, Variety and General Stores	481	38	473	1,467	1,940	3.6
Food Stores	482	1,800	2,996	3,845	6,841	6.9
Bread and Milk Vendors	483	126	320	62	382	0.3
Clothing, Fabric and Furniture Stores..	484	556	1,133	2,064	3,197	5.6
Household Appliances and Hardware Stores	485	237	972	543	1,515	3.1
Motor Vehicles, Petrol and Tyre Retailers	486	865	4,064	859	4,923	9.4
Other Retailers	487	503	966	1,326	2,292	2.9
Total Retail Establishments ..	..	4,125	10,924	10,166	21,090	31.9
Motion Picture Theatres	911	42	143	105	248	0.4
Restaurants and Licensed Hotels ..	921	403	1,646	2,372	4,018	6.2
Licensed Clubs	922	145	451	89	540	0.9
Laundries and Dry Cleaners	931	49	192	374	566	1.0
Hairdressing and Beauty Salons ..	932	253	174	591	765	0.8
Total Selected Service Establishments .. .. .	..	892	2,606	3,531	6,137	9.4
Grand Total .. .. .	..	5,017	13,530	13,697	27,227	41.2

Census of Retail Establishments and Selected Services, 1968-69
Preliminary Summary of Operations by Industry Group—continued

Industry Group	ASIC Code (a)	Sales and Other Operating Revenue (c)	Stocks at 30 June		Purchases, Transfers In and Selected Expenses	Value Added
			1968	1969		
		\$m	\$m	\$m	\$m	\$m
Department, Variety and General Stores	481	28.6	4.1	4.8	21.6	7.7
Food Stores	482	100.3	6.6	7.2	80.9	20.0
Bread and Milk Vendors	483	4.5	..	..	3.4	1.1
Clothing, Fabric and Furniture Stores..	484	49.0	10.0	10.6	36.1	13.5
Household Appliances and Hardware Stores	485	22.3	4.1	4.4	16.3	6.3
Motor Vehicles, Petrol and Tyre Retailers	486	110.7	8.9	9.7	89.7	21.8
Other Retailers	487	25.6	4.1	4.4	17.9	8.0
Total Retail Establishments ..	..	341.0	37.8	41.2	265.8	78.6
Motion Picture Theatres	911	1.3	..	..	0.5	0.8
Restaurants and Licensed Hotels ..	921	38.5	1.0	1.0	22.6	15.7
Licensed Clubs	922	5.1	0.2	0.2	3.2	1.9
Laundries and Dry Cleaners	931	2.2	..	..	0.5	1.7
Hairdressing and Beauty Salons.. ..	932	2.4	0.1	0.1	0.6	1.9
Total Selected Service Establishments .. .. .	..	49.2	1.3	1.4	27.5	21.8
Grand Total .. .. .	..	390.2	39.2	42.6	293.3	100.3

(a) Australian Standard Industrial Classification.

(b) At last pay day in June; includes working proprietors.

(c) 'Transfers out' are not specified here along with 'Sales' because they are deducted from the purchases item in the return of the supplying establishment and added to the purchases item of the receiving establishment forming part of the same enterprise.

On the basis of value added, shown in the previous table, retail and selected service establishments in the following industry groups emerge as the most important: motor vehicles, petrol and tyre retailers, 22 per cent of total value added by the retail and selected services sector; food stores, 20 per cent; and restaurants and licensed hotels, 16 per cent.

In the next table, details are given of establishments, persons employed and value of retail sales by local government area:

Number of Retail and Selected Service Establishments, Persons Employed and Value of Retail Sales, by Local Government Area, 1968-69

Local Government Area (Statistical Division and Sub-division in Bold Type)						Retail and Selected Service Establishments	Persons Employed (a)	Value of Retail Sales (b)
						no.	no.	\$'000
Hobart (H)—Inner City (c)	..	..	..	..	..	464	4,637	61,780
Rest of City ..	..	..	..	..	..	537	3,388	37,195
Total ..	..	..	..	..	..	1,001	8,025	98,975
Glenorchy (H)	..	..	..	..	..	366	1,886	27,734
Clarence (H)	..	..	..	..	..	193	905	12,237
Brighton (H) (S)	..	..	..	..	..	22	67	756
Kingborough (H) (S)	..	..	..	..	..	75	273	2,826
New Norfolk (H) (S)	..	..	..	..	..	108	473	5,918
Sorell (H) (S)	..	..	..	..	..	40	130	1,651
Bothwell (S)	..	..	..	..	..	13	27	393
Bruny (S)	..	..	..	..	..	9	}	142
Esperance (S)	..	..	..	..	..	38		
Glamorgan (S)	..	..	..	..	..	23		
Green Ponds (S)	..	..	..	..	..	11		
Hamilton (S)	..	..	..	..	..	45		
Huon (S)	..	..	..	..	..	70	272	2,976
Oatlands (S)	..	..	..	..	..	32	112	907
Port Cygnet (S)	..	..	..	..	..	28	105	1,104
Richmond (S)	..	..	..	..	..	15	36	366
Spring Bay (S)	..	..	..	..	..	16	53	562
Tasman (S)	..	..	..	..	..	17	58	468
HOBART ..	..	..	..	..	..	1,757	11,624	148,422
SOUTHERN ..	..	..	..	..	..	365	1,208	12,547
Launceston—Inner City (d)	..	..	..	..	..	363	3,055	37,944
Rest of City ..	..	..	..	..	..	494	2,159	26,922
Total ..	..	..	..	..	..	857	5,214	64,866
Beaconsfield	..	..	..	..	..	112	364	3,533
Deloraine ..	..	..	..	..	..	84	346	3,595
Evandale ..	..	..	..	..	..	16	47	397
George Town	..	..	..	..	..	58	190	2,949
Lilydale ..	..	..	..	..	..	52	120	1,966
Longford ..	..	..	..	..	..	60	256	2,299
St Leonards	..	..	..	..	..	60	201	2,242
Westbury ..	..	..	..	..	..	54	146	1,548
Tamar ..	..	..	..	..	..	1,353	6,884	83,395
Campbell Town	..	..	..	..	..	27	}	138
Ross ..	..	..	..	..	..	10		
Fingal ..	..	..	..	..	..	49		
Flinders ..	..	..	..	..	..	11		
Portland ..	..	..	..	..	..	33		
Ringarooma	..	..	..	..	..	40	111	1,253
Scottsdale ..	..	..	..	..	..	67	249	2,489
North Eastern ..	..	..	..	..	..	237	853	8,389
NORTHERN ..	..	..	..	..	..	1,590	7,737	91,784

**Number of Retail and Selected Service Establishments, Persons Employed and Value of Retail Sales,
by Local Government Area, 1968-69—continued**

Local Government Area (Statistical Division and Sub-division in Bold Type)	Retail and Selected Service Establishments	Persons Employed (a)	Value of Retail Sales (b)
	no.	no.	\$'000
Burnie	269	1,804	25,514
Circular Head	108	552	5,907
Devonport	297	1,619	22,076
Kentish	62	249	2,604
King Island	34	123	1,964
Latrobe	66	226	2,571
Penguin	44	125	1,591
Ulverstone	152	709	8,472
Wynyard	110	463	4,997
North Western	1,142	5,870	75,696
Gormanston	2	} 441	5,013
Queenstown	81		
Strahan	12		
Waratah	18		
Zeehan	50		
Western	163	788	8,466
MERSEY-LYELL	1,305	6,658	84,162
TASMANIA	5,017	27,227	336,914
Urban Hobart	1,551	10,793	138,738
Urban Launceston	999	5,648	70,183

NOTE: Symbols above mean: (H) = Hobart Division; (S) = Southern Division; (H) (S) = part of municipality in Hobart Division and remainder in Southern Division.

- (a) At end of June 1969; includes working proprietors and unpaid helpers working at least 15 hours during the week.
 (b) These figures refer to the total value of all commodities sold retail by all retail establishments and similar sales by selected service establishments.
 (c) Hobart Inner City consists of an area bounded by the centres of Campbell, Macquarie, Barrack and Brisbane Streets.
 (d) Launceston Inner City consists of an area bounded by Cameron and Tamar Streets, a line to the intersection of Elizabeth and George Streets, and Elizabeth and Wellington Streets.

Examination of the preceding table reveals that the Inner City Area of Hobart contained nine per cent of the total number of retail and selected services establishments in Tasmania, however, the value of retail sales by establishments in the Inner City Area of Hobart was 18 per cent of the State total.

The following table shows the number of retail and selected service, wholesale, mining, manufacturing, and electricity and gas establishments operating during 1968-69 which reported retail sales. The value of these sales is also shown and it is higher than that shown in the previous table since non-retail types of establishment are included. Many establishments showed sales for more than one commodity and, accordingly, the sum of the number of establishments showing sales for individual items will exceed the total number of establishments.

Commodities such as basic building materials, builders' hardware and builders' supplies, timber, commercial refrigerators and freezers, agricultural tractors, farm machinery, construction and earth moving equipment, grain feed and agricultural supplies and business machines, although sold by some retailers, are treated as wholesale sales; they constitute a class of commodities mainly used by 'producers' rather than by final 'consumers'. Accordingly such sales are excluded from the following table but are included later in this Chapter in the section entitled 'Wholesale Trade'.

Retail Sales of Retail and Selected Service, Wholesale, Manufacturing, and Electricity and Gas Establishments, 1968-69

Commodity	Establishments	Retail Sales
	no.	\$'000
Groceries, Other Food Items, etc.—		
Groceries	1,279	49,216
Fresh Meat	481	20,642
Fresh Fruit and Vegetables	926	5,881
Bread, Cakes and Pastries	933	4,516
Bread, Delivered	71	1,269
Milk, Delivered	104	5,416
Fish (Fresh or Cooked), Chips, Hamburgers, etc.	251	1,927
Confectionery, Ice Cream, Soft Drinks, Wrapped Lunches, etc.	1,729	10,457
Beer, Wine and Spirits	478	30,633
Cigarettes and Other Tobacco Products	2,226	11,744
Furniture and Floor Coverings—		
Furniture, Mattresses, Blinds, etc. (including Installation and Repairs)	164	8,609
Floor Coverings, Carpets, Lino, etc. (including Laying of Floor Coverings)	120	4,012
Fabrics, Clothing and Footwear—		
Fabrics, Piece Goods, Manchester, Blankets, Soft Furnishings, etc.	293	7,776
Clothing—Mens and Boys	333	12,701
Womens, Girls and Infants	446	22,405
Footwear—Mens and Boys	301	2,807
Womens, Girls and Infants	268	4,347
Household Appliances—		
Radios, Radiograms, Tape Recorders, etc.	145	2,461
Musical Instruments, Records, etc.	92	1,053
Television Sets and Accessories	129	2,151
Domestic Refrigerators and Freezers	125	2,156
Washing Machines, Stoves, Household Heating Appliances, etc.	135	3,071
Other (a)	219	2,793
Hardware (b)—		
Domestic Hardware (including Garden Supplies and Equipment, Motor Mowers, Household and Garden Fertilisers and Pesticides), China, Glassware	483	6,220
Petrol, Motor Vehicles, Boats, etc. (c)—		
Petrol, Oils and Motor Lubricants, etc.	685	19,367
Motor Vehicles—New	74	31,826
Used	132	24,785
Parts and Accessories for Motor Vehicles—New	405	5,256
Used	71	506
New and Used Motor Cycles, Motor Scooters	36	542
New and Used Motor Tyres, Tubes and Batteries	444	6,464
Boats, Outboard Motors, Caravans	43	2,304
Miscellaneous—		
Cosmetics, Perfumes, Toilet Preparations, etc.	578	4,359
Patent Medicines and Therapeutic Appliances	438	3,524
Prescription Medicines	147	4,154
Photographic Equipment and Supplies	288	1,503
Watches, Clocks, Jewellery, Silverware	208	2,540
Sporting Goods, Bicycles, Toys, etc.	321	3,452
Books, Stationery, Newspapers, etc.	571	9,232
Antiques, Disposal Goods, Secondhand Goods (excluding Goods Traded In), etc.	40	n.p.
Cut Flowers, Garden Seeds, Shrubs, etc.	148	852
Travel Goods, Brief Cases, etc.	96	411
Liquified Petroleum Gas (Bottled)	19	n.p.
Other (n.e.i.)	232	3,441
Total .. .. .	..	349,166

(a) Includes vacuum cleaners, floor polishers, sewing machines, electric shavers, electric blankets and irons, etc.

(b) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. See introduction to table.

(c) Excludes tractors, farm machinery and implements, earth-moving equipment, etc. See introduction to table.

The following table shows the value of other operating revenue for retail and selected service establishments:

Value of Other Operating Revenue of Retail and Selected Service Establishments, 1968-69

Item	Establishments	Other Operating Revenue
	no.	\$'000
Repair and Service Revenue—		
Household Electrical Appliance Repairs	92	1,392
Panel Beating, Spray Painting, etc.	172	3,959
Other Motor Vehicle Repairs	392	7,721
Motor Vehicle Lubricating, Washing and Cleaning	358	729
Motor Cycle and Motor Scooter Repairs	25	n. p.
Retreading, Recapping of Tyres, etc.	77	693
Boot and Shoe Repairs	69	386
Other Repairs	113	1,139
Other Revenue—		
Hiring or Leasing of—Household Appliances, Radios, etc. ..	43	n. p.
Other Consumer Goods	17	106
Takings from—Meals	453	9,291
Men's and Women's Hairdressing	286	2,433
Accommodation	257	3,364
Laundering, Dry Cleaning, Dyeing, etc.	n. p.	2,189
Receipts from Theatre Admissions and Screen Advertising ..	41	1,072
Other	605	2,783
Total .. .. .	..	37,526

Quarterly Estimates of Value of Retail Sales

Each quarter, returns of retail sales are collected from a fraction (or sample) of all retail businesses recorded in the most recent census of retail establishments, the fraction being selected to represent the field covered by the census. This sample is varied annually to make provision for 'new' establishments opening up, 'old' establishments closing down and 'old' establishments changing type ('old', in this context, relates to businesses as recorded at the most recent census of retail establishments). The following table presents estimated value of retail sales in Tasmania for annual periods as derived by aggregation of the quarterly retail surveys.

Estimated Value of Retail Sales of Goods by Commodity Groups
(\$ million)

Commodity Group	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Groceries	35.2	36.5	37.3	40.7	41.4	44.8
Butchers' Meat	17.8	19.4	19.9	19.8	20.7	21.1
Other Food	22.7	24.2	26.1	28.6	30.1	31.1
Beer, Wine, Spirits	20.3	23.3	25.0	26.3	28.6	30.6
Clothing, Drapery, Piece Goods	35.6	39.3	42.4	41.9	44.5	46.9
Footwear	6.0	6.2	6.5	6.7	7.1	7.5
Domestic Hardware	4.5	5.1	5.5	6.1	6.0	6.3
Electrical Goods	11.2	11.7	12.4	12.2	13.1	13.5
Furniture, Floor Coverings	8.7	10.1	11.2	12.0	12.8	13.1
Chemists' Goods	9.9	10.5	10.9	12.1	13.4	14.3
Newspapers, Periodicals, etc.	6.8	7.4	8.1	8.9	9.4	10.0
Other Goods (a)	19.6	21.3	22.6	24.5	25.7	27.1
Total (excluding Motor Vehicles, etc.)	198.3	215.0	227.9	239.8	252.8	266.3
Motor Vehicles, Parts, Petrol, etc.	77.4	79.9	86.3	87.6	96.9	106.7

(a) Includes sports goods, jewellery, cycles, flowers, plants, etc.

Trade and Distribution

WHOLESALE TRADE

Introduction

Censuses and surveys of retail trade were introduced by the Bureau of Census and Statistics in the late 1940s; a continuous quarterly series shows retail sales for the last 20 years or so in terms of broad commodity groups. Developments in this field occupied all the resources available and the problem of creating a matching wholesale series had to be deferred. However, a pilot census was conducted covering wholesale trading in 1963-64, the aim being to identify the various categories of wholesalers and to discover the various types of operation.

The results of the pilot census were not published but they served to show the definitional framework necessary for a full-scale census, and to highlight differences between retail and wholesale operations (e.g. the greater relative importance in the wholesale sector of sales on commission).

The decision was taken to defer any full-scale wholesale census until 1968-69 when simultaneous censuses were being held in other sectors of the economy, the more relevant being those covering manufacturing and retailing. The link between wholesaling and these two sectors is easily apparent; manufacturers often market through wholesalers, and wholesalers in turn are suppliers of goods to retailers. The inclusion of all three sectors in three simultaneous censuses meant that there need be no overlaps or gaps in coverage.

Census of Wholesale Establishments, 1968-69

Introduction

For 1968-69 simultaneous economic censuses were undertaken in respect of wholesale trade and four other sectors (manufacturing, electricity and gas, mining and retail trade). The 1968-69 census was the first full census of wholesale trade conducted by the Bureau. The integrated economic censuses 1968-69 are fully described in Appendix A of the 1972 *Year Book* and readers will find there an explanation of the need to end the old-style censuses covering the other sectors, and to start new series based on new reporting unit concepts and new data concepts. This first census of wholesale trade was also based on the new concepts.

A comparison of the results of the five censuses appears as a special Appendix to this Chapter.

Definition of Wholesale Establishment

All Activities at One Location: In all 1968-69 censuses, the basic census unit, in general, covered all the operations carried on under the one ownership at a single physical location. The *wholesale establishment* is thus one mainly engaged in wholesaling but the data supplied for it encompasses all activities at the location. It therefore covers:

- (i) the wholesaling which is the major activity at the location;
- (ii) any retailing activity at the location; and
- (iii) any manufacturing or other activity at the location.

Exceptions to this total coverage rule are made where any secondary or subsidiary activity (in terms of gross value) exceeds \$1m and such locations are treated for statistical purposes as two or more establishments corresponding to the various kinds of activity carried on.

Administrative Offices and Ancillary Units: The wholesale trade statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the enterprise which owns and operates the establishment. These are units such as head offices, storage premises, transport depots and motor vehicle repair and maintenance workshops. However, their inclusion does not affect the number of establishments, e.g. a wholesale establishment and a separately located ancillary transport depot are counted as one establishment classified according to the activity at the wholesaling location.

Standard Classification: The Australian Standard Industrial Classification (ASIC) defines the industries in the economy for statistical purposes and specifies the scope of the different economic censuses to avoid gaps or overlaps between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. Each establishment in the wholesale census is identified in terms of a particular location and all sales, employment, etc. are recorded for that location, regardless of the size of the territory covered, i.e. irrespective of where customers are located. For this reason, all sales, etc. of the wholesale establishments located in the State of Victoria, for example, are credited to Victoria, even though the sales territories may extend over several States. Thus the census results for Tasmania should not be interpreted as covering all wholesale sales made in Tasmania, but as total wholesale sales made *by establishments located in Tasmania*.

Data Concepts

Value of Turnover: *Equals* sales of goods on own account; *plus* transfers out of goods; *plus* commissions received for purchasing and selling; *plus* goods withdrawn from stocks for own use, or for rental or lease; *plus* all other operating revenue.

In this definition, all other operating revenue *includes* repair and service revenue, and leasing revenue from hiring out machinery and equipment without operators for periods exceeding one year, but *excludes* rents and leasing revenue (from other than wholesale activity), interest (other than from hire purchase) and receipts from sales of fixed tangible assets.

Purchases and Selected Expenses: *Equals* purchases of goods for resale and materials for manufacturing; *plus* transfers in of goods; *plus* charges for commission and sub-contract work; *plus* purchases of wrapping and packaging materials and electricity and fuel; *plus* repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, and sales commission payments.

Value Added: *Equals* value of turnover and other operating revenue; *plus* increase (or *less* decrease) in the value of stocks; *less* purchases and selected expenses.

Value added is the appropriate measure for comparing various industries and can be added for groups of industries without there being any possibility of duplication. A comparison appears as an Appendix to this Chapter.

Transfers: In the previous definitions, the terms, 'transfer in' and 'transfer out' occur. The transactions refer exclusively to transfers between establishments of the same enterprise.

Types of Wholesale Operation

(i) *Primary Produce Dealers or Agents:* Establishments mainly purchasing produce direct from farmers, graziers, fishermen, etc. or selling produce on commission to such producers; included are all establishments of the country 'stock and station agent' type.

(ii) *Wholesale Merchants:* Establishments mainly selling goods owned by the enterprise and not bought direct from primary producers. A further dissection separates out 'import and/or export merchants' as a special sub-set.

(iii) *Manufacturers' Sales Branches Holding Stocks:* Establishments mainly selling goods manufactured by other establishments of the same enterprise *provided* (a) the sales branch is separately located from all manufacturing establishment locations; and (b) it supplies goods direct to customers from stocks physically held at premises occupied or controlled by the branch itself.

(iv) *Commission Agents or Brokers:* Establishments mainly selling or purchasing goods on commission for other enterprises (except those selling on behalf of primary producers, included in (i) previously; and on behalf of oil companies, included in (v) following).

(v) *Petroleum Distributors:* Establishments mainly dealing in petroleum products, either on account of the enterprise or on commission for other enterprises.

(vi) *Repairers and Lessors of Machinery and Equipment:* Establishments mainly repairing farm machinery or business machines, or leasing machinery or equipment without operators for periods exceeding one year. These activities are included in wholesale trade because they

are usually performed by establishments whose main activity is the wholesale distribution of machinery. Other repair activity which is usually performed by manufacturing establishments is, of course, included in the manufacturing census.

Preliminary Results 1968-69

The tables that follow give preliminary results for Tasmania in the 1968-69 wholesale trade census. The results are subject to revision for these reasons: (i) the splitting of multi-activity locations under the \$1m rule has not been completed; (ii) the detailed industry classification of establishments has not been carried out; (iii) transfers have still to be valued on a more consistent basis; (iv) one element has not been taken into the calculation of 'turnover', namely 'goods withdrawn from stocks for own use as fixed tangible assets, or for rental or lease'. Because of this last fact, the term 'turnover' is not used in the tables, the substitute being 'sales on own account, transfers out and other operating revenue'.

Census of Wholesale Establishments, 1968-69
Preliminary Summary of Operations by Broad Type of Operation

Type of Operation	Establishments Operating During 1968-69	Persons Employed (a)			Wages and Salaries	Sales on Commission (b)
		Males	Females	Total		
	no.	no.	no.	no.	\$m	\$m
Primary Produce Dealers or Agents	88	1,295	390	1,685	4.9	56.5
Wholesale Merchants—						
Import and/or Export ..	58	325	126	451	1.1	1.6
Other	492	3,746	934	4,680	12.3	5.2
Manufacturers' Sales—						
Branches Holding Stock	102	558	168	726	2.2	11.0
Commission Agents or						
Brokers	106	220	145	365	0.5	21.6
Petroleum Distributors ..	57	394	71	465	1.5	54.7
Repairers and Lessors of Machinery and Equipment	17	55	8	63	0.1	..
Total Wholesale Trade	920	6,593	1,842	8,435	22.7	150.7

Census of Wholesale Establishments, 1968-69
Preliminary Summary of Operations by Broad Type of Operation—continued

Type of Operation	Sales on Own Account, Transfers Out and Other Operating Revenue	Stocks at 30 June		Purchases, Transfers In and Other Selected Expenses	Value Added
		1968	1969		
	\$m	\$m	\$m	\$m	\$m
Primary Produce Dealers or Agents ..	44.9	5.2	5.4	36.1	8.9
Wholesale Merchants—					
Import and/or Export	24.6	3.3	3.2	21.3	3.2
Other	158.4	23.5	25.2	132.8	27.3
Manufacturers' Sales—					
Branches Holding Stocks	32.3	3.3	3.5	25.1	7.3
Commission Agents or Brokers ..	3.4	0.2	0.2	2.0	1.5
Petroleum Distributors	23.4	1.4	1.9	18.2	5.7
Repairers and Lessors of Machinery and Equipment	0.7	..	0.1	0.3	0.4
Total Wholesale Trade	287.6	37.0	39.5	235.9	54.2

(a) At last pay period in June; includes working proprietors.

(b) The commission from these sales is included in the calculation of 'value added' (since commission received is a component of 'other operating revenue') but the sales themselves are excluded from the calculation.

The following table shows the number of wholesale, retail and selected service establishments operating during 1968-69 which reported wholesale sales made on their own account:

Wholesale Sales of Wholesale, Retail and Selected Service Establishments, 1968-69

Commodity	Establishments	Sales on Own Account (a)
	no.	\$'000
Agricultural and Pastoral Products and Supplies—		
Livestock	7	1,567
Wool	8	1,464
Hides, Skins, Raw Furs, Leather and Tallow	11	4,721
Wheat and Other Cereal Grains	42	2,052
Other Farm Products (n.e.i.)	14	2,061
Farm and Garden Supplies	228	12,691
Metals and Minerals—		
Iron and Steel	24	4,646
Scrap Metal	8	1,044
Other	13	1,682
Machinery and Equipment (including Parts)—		
Agricultural	86	10,119
Construction and Earthmoving	30	7,811
Manufacturing and Mining, etc.	73	10,567
Commercial and Service Establishments	37	1,610
Professional and Scientific	18	1,218
Business Machines, including Computers	36	2,130
Electrical and Electronic Equipment (n.e.i.)	52	6,983
Building Materials and Supplies—		
Timber, Plywood and Veneers	91	10,046
Glass	24	1,040
Other Basic Building Materials	71	10,325
Builders' Hardware and Supplies	274	19,094
Pharmaceuticals, Toiletries and Chemicals—		
Chemicals and Allied Products (n.e.i.)	22	2,155
Medical and Pharmaceutical Products	33	4,230
Toiletries, Perfumes and Cosmetics	27	1,191
Soap and Detergents	31	1,516
Petroleum, Petroleum Products and Fuel—		
Petroleum and Petroleum Products	18	18,833
Liquified Petroleum Gas	3	n.p.
Coal, Coke, Briquettes and Charcoal	6	n.p.
Vehicles and Transport Equipment—		
Motor Vehicles	16	5,613
Motor Vehicle Parts, Accessories and Engines	24	5,777
Tyres and Wet Cell Batteries	20	2,319
Other	8	96
Household Appliances, Furniture, etc.—		
Household Appliances	61	8,789
China, Glassware, Kitchenware, etc.	53	1,401
Garden Equipment	15	310
Furniture, Mattresses and Blinds	18	413
Floor Coverings	16	1,428
Clothing, Footwear and Textile Products—		
Men's and Boys' Clothing	20	1,905
Women's, Girls' and Infants' Clothing	20	1,302
Footwear	14	735
Textiles and Textile Products, n.e.i.	20	967
Foodstuffs—		
Meat	14	9,714
Dairy Products, Smallgoods and Poultry	42	7,427
Eggs and Egg Pulp	9	653
Fresh Fruit and Vegetables	40	17,106
Fish	31	5,759
Confectionery	36	4,636
Groceries, Food Lines Only	53	23,173
Tea	17	1,607
Coffee	16	1,703
Other	17	1,026

Wholesale Sales of Wholesale, Retail and Selected Service Establishments, 1968-69—*continued*

Commodity	Establishments	Sales on Own Account (a)
	no.	\$'000
Beverages and Tobacco Products—		
Soft Drinks	17	564
Wine and Brandy	18	1,960
Beer and Other Spirits	22	4,720
Cigarettes and Other Tobacco Products	24	9,769
Miscellaneous—		
Books, Periodicals and Other Printed Matter	11	1,366
Paper, Paper Products and Stationery	48	3,363
Photographic Goods	7	n.p.
Watches, Clocks, Jewellery, etc.	16	118
Sporting Goods and Bicycles	17	1,178
Toys and Games	29	678
Fancy Goods, Gifts and Souvenirs	19	357
Other (n.e.i.)	153	7,668
Total	(b)	277,020

(a) Goods merchanted from stocks owned by establishments (but excluding sales on commission).

(b) As many establishments show sales for more than one commodity the sum of establishments showing sales of individual items will exceed the total number of establishments reporting wholesale sales.

INTEGRATED ECONOMIC CENSUSES

CENSUSES COVERING 1968-69

Introduction

In the 1972 *Year Book*, Appendix A gave a detailed description of the Australian Integrated Economic Censuses conducted by the Bureau of Census and Statistics for the 1968-69 financial year.

The Tasmanian results of these five simultaneous censuses appear in the appropriate chapters of this book; references are:

- (i) *Census of Manufacturing Establishments*, Chapter 9;
- (ii) *Census of Mining Establishments*, Chapter 8;
- (iii) *Census of Wholesale Establishments*, Chapter 10;
- (iv) *Census of Retail Establishments and Selected Service Establishments*, Chapter 10;
- (v) *Census of Electricity and Gas Establishments*, Chapter 9.

The purpose of this section is to bring together the results of the five censuses, comparison and combination being possible since common definitions and concepts were employed in each.

The tables that follow contain preliminary results only; final data are now available, however, they were not available in time for inclusion in this Chapter of the Year Book.

Value Added, Employment, etc.

'Value added' is a concept allied to 'net value of production'; the former is a new value concept employed in the integrated censuses just specified while the latter is still employed in series related to primary production (excluding mining). Although broadly analogous, the two concepts are differently defined and direct comparisons are therefore not made.

The following table shows value added as recorded in each census:

Integrated Economic Censuses 1968-69 (a): Value Added

Classification of Establishments (b)	Amount	Proportion of Total	Per Head of Mean Population
	\$'000	per cent	\$
Mining	40,400	9.3	105.64
Manufacturing	204,400	47.2	534.66
Electricity and Gas	33,500	7.7	87.60
Wholesaling	54,210	12.5	141.76
Retailing	78,600	18.2	205.52
Selected Services (c)	21,800	5.1	57.00
Total	432,910	100.0	1,132.18

(a) Source: Preliminary Statements and Bulletins.

(b) As defined in the Australian Standard Industrial Classification.

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hairdressing and beauty salons.

Definition of Value Added

Value Added equals turnover plus increase in stocks minus purchases, transfers in and selected expenses; it is, broadly speaking, the surplus from which establishments meet salaries and wages, interest, rent, depreciation and overheads; the final residue is then available for appropriation as profits.

Turnover is the sum of: (i) sales; (ii) transfers out; (iii) bounties and subsidies on production; (iv) selling and purchasing commissions; (v) capital work done for own use or for rental or lease; and (vi) all other operating income *excluding* revenue from rent and leasing, interest other than from hire purchase, dividends and sales of fixed tangible assets.

Purchases and Selected Expenses is the sum of: (i) purchases and transfers in of materials and goods; (ii) purchases of fuel; (iii) purchases of packaging, etc. materials, and electricity and gas; (iv) repair and maintenance expenditure; (v) charges for sub-contract and commission work; (vi) outward freight and cartage; (vii) motor vehicle running expenses; and (viii) sales commission payments.

Comparison with Primary Industry Series

As previously explained, it is not possible to make a direct comparison between net value of production in the primary industry series and value added in the integrated census series. However, the net value of production series are included in Chapter 8 in the special appendix Value of Production. Net value of production for the rural group of primary industries in 1968-69 was \$74.1m; for the non-rural group (excluding mining) \$17.9m; and for both groups \$92.0m.

The last year in which manufacturing and mining values could be directly compared with those in the primary production series was 1967-68; in that year for example, the net value of production for the rural group of primary industries (\$62.7m) was approximately one third of the corresponding manufacturing figure (\$198.0m). A somewhat similar relativity can be observed in 1968-69 between net value of production for the rural group of primary industries (\$74.1m) and value added in the manufacturing census (\$204.4m). Thus, even if a direct comparison cannot be made, it is still possible to draw very broad conclusions about the relative economic significance of various types of activity by examining the net value of production series in Chapter 8 and the value added series in this section.

Other Comparisons

The next table combines the results of the five simultaneous censuses to show the derivation of value added:

Integrated Economic Censuses 1968-69: Derivation of Value Added
(\$ million)

Classification of Establishments (a)	Sales, Transfers Out and Other Operating Revenue	Stocks at 30 June		Purchases, Transfers In and Selected Expenses	Value Added (b)
		1968	1969		
Mining	(1) 59.1	(2) 7.4	(3) 8.6	(4) 19.8	(5) 40.4
Manufacturing	506.1	95.6	106.7	312.8	204.4
Electricity and Gas	34.8	5.1	4.7	0.9	33.5
Wholesaling	287.6	37.0	39.5	235.9	54.2
Retailing	341.0	37.8	41.2	265.8	78.6
Selected Services (c)	49.2	1.3	1.4	27.5	21.8
Total	1,277.8	184.2	202.1	862.7	432.9

(a) As defined in the Australian Standard Industrial Classification.

(b) (5) = (1) minus (2) plus (3) minus (4).

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hairdressing and beauty salons.

The last comparison is concerned with number of establishments, persons employed and wages and salaries:

Integrated Economic Censuses 1968-69: Number of Establishments, Persons Employed and Wages and Salaries

Classification of Establishments (a)	Number of Establishments	Persons Employed (b)			Wages and Salaries
		Males	Females	Persons	
Mining	85	no. 3,810	no. 130	no. 3,940	\$m 16.3
Manufacturing	1,039	25,605	6,860	32,465	96.1
Electricity and Gas	5	2,450	194	2,644	10.6
Wholesaling	920	6,593	1,842	8,435	22.7
Retailing	4,125	10,924	10,166	21,090	31.9
Selected Services (c)	892	2,606	3,531	6,137	9.4
Total	7,066	51,988	22,723	74,711	187.0

(a) As defined in the Australian Standard Industrial Classification.

(b) At the end of June 1969; includes working proprietors and unpaid helpers working at least 15 hours per week.

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hairdressing and beauty salons.

Chapter 11

TRANSPORT AND COMMUNICATION

MARINE BOARDS AND HARBOUR TRUSTS

Introduction

Tasmania has a number of ports capable of accommodating overseas vessels; they are sited on the Derwent and Huon Rivers in the south (Hobart and Port Huon); in Spring Bay on the east coast; on the Tamar in the north (Beauty Point, Inspection Head and Bell Bay); on the Mersey (Devonport), in Emu Bay (Burnie) and at Port Latta, all in the north-west. All these ports provide depths of approximately 30 feet or more of water at berths; Port Latta provides a depth of 52 feet nearly a mile off-shore.

Interstate and intrastate trade passes through the main ports and operates as well through ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island). A new interstate and intrastate port at Grassy, King Island, was completed in early 1972.

This section deals primarily with the Marine Boards which control the harbours but a brief description is given of the main ports.

Port of Hobart

Location

The approach to the Derwent and the Port of Hobart is made through a very wide strait between Cape Queen Elizabeth (Bruny Island) and Cape Raoul (Tasman Peninsula), approximately 30 miles south-east from the city. The mouth of the Derwent, three and a half miles wide, lies twelve miles south-east of the port which is built upstream on the western bank in a U-shaped cove; the opposite bank lies one and a half miles away to the east at this point. The shores of the Derwent and the arms of the cove act as natural breakwaters.

Description

The present main port of Hobart is extremely compact, being U-shaped with only 2,000 feet or less separating the southern and northern arms. The southern arm is devoted to Princes Wharf with berths numbered one to four; the centre contains Elizabeth Street Pier and Kings Pier while the northern arm is made up of the Macquarie Wharves with berths one to four. Most wharves and sheds in the main port are of concrete construction. A tanker berth, formerly sited on Macquarie Point, about 1,000 feet north of Macquarie Wharves, has been decommissioned and work has started on the redevelopment of the whole area to provide additional berths.

In the 1960s a major development was the establishment of special facilities for roll-on roll-off vessels. Princes Wharf No. 1 berth was converted into a specialised terminal with a drive-on ramp and vehicle marshalling area, the *Seaway Queen* and *Seaway King* first berthing there in June and August 1964 respectively. To accommodate the Sydney-Hobart vessel *Empress of Australia*, extensive land reclamation was carried out to the south of Princes Wharf No. 3 berth. The new facility, named No. 4 berth, involved a further wharf, a drive-on ramp, an extensive marshalling area and a terminal building. The *Empress* commenced service in January 1965 but ceased her Hobart run in mid-1972. Other vessels operated by the Australian Coastal Shipping Commission (Australian National Line) also use this berth.

The most striking feature of the Port of Hobart is the ease with which large vessels can be brought to berth. Tides present no problem, the rise and fall being four feet six inches (average approximately two feet), and dredging of approach channels has never been necessary.

Subsidiary Ports

In addition to the main port in the heart of the city, there are a number of subsidiary outlets serving the south of the State. Near Snugg, on D'Entrecasteaux Channel, is the private wharf of the Electrona carbide works. Port Huon wharf, located on the west bank of the Huon River near Geeveston, is in the centre of the principal orcharding area and used mainly for fruit exports. Also based on the Huon River (at Hospital Bay) is the A.P.M. Ltd private wharf (for export of paper pulp). At the port of Spring Bay, near Triabunna on the east coast, accommodation has been provided for bulk carriers loading woodchips for Japan. (For a detailed description of the Port of Spring Bay see the following section.) In the Derwent itself, two and a half miles upstream from the main port, is a tanker berth at Sells Point where bulk petrol and oil are stored; tankers pass under the 155 feet high navigation span of the Tasman Bridge on their way.

The Sells Point area is being developed as a petroleum products storage area and has replaced the Macquarie Wharf facilities as Hobart's petroleum installation. A mile upstream from Sells Point is the Electrolytic Zinc Company Ltd private wharf at Risdon. At Boyer, located nearly 20 miles upstream from the main port, is the Australian Newsprint Mills Ltd plant. Newsprint is ferried to the main port by barge.

Port of Spring Bay

At Triabunna, on the east coast, one of Tasmania's latest ports has been constructed to service the Tasmanian Pulp and Forest Holdings' woodchip plant. In January 1969 the Royal Australian Navy completed a hydrographic survey of the harbour and its approaches. Construction commenced in 1970 and was completed in March 1971. The first woodchip ship berthed in April 1971. Total cost of the port facilities was approximately \$0.9m.

Details: The specialised port facilities, designed for rapid loading of woodchip ships, are 'T-shaped' and jut out 450 feet into Spring Bay. The minimum depth of water at the wharf-face is 38 feet. Facilities comprise: (i) a wharf-face approximately 540 feet long; (ii) four mooring dolphins (mooring facilities built into the sea-bed or on land); (iii) an approach stem; and (iv) a ship loading system. The wharf-face proper, connected to the shore by a timber approach stem, consists of the wharf-head and six concrete-steel berthing dolphins; three are placed either side of the wharf-head. Placed on the wharf-head is the loading structure which blows the chips into the ship's holds. At either end of the wharf-face are end mooring dolphins. These dolphins, constructed of steel, serve a dual purpose—they provide mooring stations and a base for winching the ship along the wharf during loading operations. The two lateral dolphins, one of concrete and built on the shore and the other of steel construction and driven into the sea-bed, are used to keep the vessel against the wharf-face. The wooden approach stem, alongside of which runs the loading conveyor belt, is 15 feet wide and provides vehicular access to the wharf-head.

Loading: Chips are moved, by a conveyor belt system, from the chipping plant to a stock-pile, set back from the shore. Feeders, set into the base of the stock-pile, transfer the chips to another conveyor belt which carries them to a hopper at the loading head from where the chips are blown into the ship's holds. The loader is semi-fixed; sufficient movement is allowed for the loader to cover a single hold. To ensure the ship is kept in balance during loading operations the holds are filled according to a pre-determined pattern. The ship is moved along the wharf-face by means of the mooring lines attached to the bow and stern mooring dolphins which provide a base for the winching operation. Loading a 35,000 ton woodchip ship takes approximately four days.

Administration

The Marine Board of Hobart is the authority controlling the main ports of Hobart, Port Huon and the Port of Spring Bay. When the Marine Board of Strahan ceased to function on 30 September 1970, Parliament extended the responsibilities of the Marine Board of Hobart to cover the control and operation of the Port of Strahan. The Board's jurisdiction covers the west, south and east coasts of Tasmania between the parallel of $41\frac{1}{2}^{\circ}$ South latitude and Cape Portland.

Works Programme

The works programme for 1971-72 included: (i) completion of the new multi-storey office accommodation; (ii) further relocation and improvement of navigation lights in D'Entrecasteaux Channel; (iii) construction of additional fendering and provision for vehicular access at Selfs Point Wharf; (iv) provision of a concrete pad for the roll-on roll-off service to Adelaide at Macquarie Wharf No. 4 together with associated storage facilities; and (v) commencement of reclamation and wharf construction at Macquarie Point to provide additional berthing facilities for roll-on roll-off and conventional vessels. The Macquarie Point Development Scheme, which at this stage is estimated to cost at least \$7m, is planned in three stages, each stage to be fully operative as soon as it is completed.

The three stages of the Macquarie Point Development Scheme are:

Stage 1 (No. 5 Berth): A new wharf on reclaimed land to provide one roll-on roll-off berth and a six-acre marshalling area, including a large transit shed.

Stage 2 (No. 6 Berth): Extension and rebuilding of the Macquarie Oil Wharf northward of Stage 1 to provide a second roll-on roll-off berth within the complex. The associated reclamation will provide an additional five-acre marshalling area which will be equipped with transit shed facilities.

Stage 3 (No. 7 Berth): This stage provides for the extension southwards of Stage 1 to join with the existing Macquarie Wharf No. 3. The extension which also includes reclamation will provide a minimum of 800 feet of wharf space. With a depth of 42 feet alongside, it will be suitable for large overseas quarter ramp and conventional type vessels. A 500 feet transit shed and nine acres of marshalling area are incorporated in this stage, making a total of 20 acres for the whole project.

Port of Launceston

Location

The port of Launceston is situated on the River Tamar, which originates at the confluence of the North and South Esk Rivers at the City of Launceston and flows 40 miles to Bass Strait where deep water and broad expanses of river provide a valuable natural harbour. In this area, encompassing Bell Bay, Beauty Point and Long Reach, are located the major activities of the Port of Launceston. A tidal range of between 10 and 12 feet creates strong tidal currents, which, by natural scour, eliminate the need for any maintenance dredging in the lower reaches of the river.

Because extensive areas of deep water frontage are available, the development of the port is decentralised with the main operations located as follows:

- (i) *Bell Bay:* Wharves include two tanker berths, a general cargo and bulk berth, a passenger berth, roll-on roll-off facilities, a special bulk berth serving Comalco Aluminium Ltd, and two berths serving the woodchip industry. The roll-on roll-off facilities serve the Australian National Line ships. The Bell Bay site is on the eastern shore, some eight miles upstream from the mouth of the Tamar.
- (ii) *Inspection Head:* Overseas berths on the western bank, opposite Bell Bay, for shipment of fruit, frozen meat and general cargo. Large cool storage and freezer facilities are provided.

- (iii) *Beauty Point*: Bulk storage and special loading facilities for tallow as well as general cargo facilities. Location is on the western bank, half a mile upstream from Inspection Head.
- (iv) *Kings Wharf Launceston*: Berths for inter and intrastate trade; facilities also include a graving dock and fitting out berths for small ship docking and repair.

Description

All berths and facilities now in service in the port have been constructed since about 1950 and are, therefore, of modern standard.

Channel and lighting improvements in the lower reaches, have been carried out over recent years, permitting vessels of up to 50,000 tons deadweight to work the river for 10 miles from Bass Strait to the site of the new woodchip berths in Long Reach. The channel improvement works have been designed to provide for the rapidly growing industrial complex at Bell Bay which is creating an ever increasing demand for large bulk carriers.

Administration

The port is administered by the Port of Launceston Authority whose jurisdiction covers the full length of the River Tamar, together with the northern coastline westward to Badger Head and eastward to Cape Portland.

Works Programme

The main work being undertaken by the Authority is the reclamation work and building of a new ferry terminal at Bell Bay. This terminal when completed will be serviced by a 40-ton wharf crane. Waste slag from the Temco works was used as reclaiming and paving material while rock excavated from the escarpment provides armouring.

Estimated cost of reclamation, supply of a 40-ton crane and construction of the stern loading facility and the 340 feet wharf is \$1,640,000.

Port of Devonport

Location

The Port of Devonport is situated on the Mersey River within one mile of the coast. The entrance is sheltered by Mersey Bluff on the west and by a retaining wall extending half a mile northward from the eastern shore of the river. The river was always a natural harbour for small craft and its development as a major port by extensive dredging and engineering works has resulted in a secure harbour for large ships.

Description

The main harbour is formed around two swinging basins each 850 feet in diameter with wharves on both banks providing 3,500 lineal feet of berthage.

The western bank contains four overseas and interstate berths and one specialised cattle jetty. These berths are provided with storage sheds, oil pipelines, wheat silos, bulk cement silos, as well as one of the largest and most modern cold storage facilities in the State. Provision has also been made for the handling of bulk commodities and heavy lifts while all berths are connected to the State railway network.

Two terminals for roll-on roll-off and container cargo are located on the eastern bank; one is leased to the Australian National Line and the other is a common-user facility. Both are equipped with stern loading ramps and cranes for lift-on lift-off cargo. Extensive vehicle marshalling and cargo assembly areas are provided with land available for expansion. Over 19,000 passengers pass through the No. 1 Terminal each year. In July 1972 the *Empress of Australia* replaced the *Princess of Tasmania* on the passenger run to and from Melbourne. The A.N.L. vessels *Bass Trader*, *Sydney Trader*, *Brisbane Trader* and *Townsville Trader* maintain a regular cargo service from both terminals.

A 30-ton portal travelling crane at No. 2 Berth is capable of handling all types of cargo units. For the speedy handling of bulk cargoes a 14-ton grab and 40-ton capacity hopper are available as auxiliaries to the crane. This berth is designed to take distributed loads up to 1,200 lb per square foot or I.S.O. 20-ton containers stacked two high. The container vessel *Echuca* maintains a weekly feeder service from this berth, which handles the majority of Tasmania's international container traffic.

Works Programme

The port is capable of handling vessels with 28½ feet draft and up to 600 feet in length. Over the next three years the entrance channel will be widened to 300 feet and the turning circle widened to a diameter of 900 feet and dredged to give a minimum depth of 28 feet over the entire area.

The Port of Burnie

Location

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackmans Point; immediately to the west of the Point is a beach on which breaks the short surf of Bass Strait which can produce very rough seas, the nearest land being the Victorian coast 200 miles to the north.

Description

The shelter necessary for all-weather use of the port is provided by a 1,250-foot breakwater anchored to Blackmans Point, and running out to sea with a south-east orientation. The wharves are thus protected by the Point and by the breakwater from swells coming in from the west or north, the two quarters from which heavy seas are feared. Ocean Wharf is constructed immediately in the lee of the breakwater, the two structures appearing as one, and other berths are provided by piers parallel to the breakwater but lying further south.

Future development of the port could not be undertaken without the provision of further protection, and an island breakwater sited north-east from the end of Ocean Wharf has been constructed. The breakwater, consisting of concrete caissons 1,600 feet long, is orientated south-east and is calculated to give ample protection for up to 2,000 feet of berthage south of existing piers. An interesting feature is the use of the lee of the island breakwater for a tanker berth for both petroleum and sulphuric acid, the fuel being pumped to the land along a submarine pipe, and the sulphuric acid pumped to the berth over a bridge spanning the gap between the two breakwaters.

In 1961 special facilities were provided to handle the roll-on roll-off vessel *Bass Trader*. In 1969 the first phase of the southern port development which included new facilities for roll-on roll-off vessels, was commissioned by the maiden visit, to the port, of the *Australian Trader*. The new terminal is used regularly by five roll-on roll-off vessels.

When the harbour expansion programme was started in 1960, the total annual volume of trade passing through Burnie was slightly less than 400,000 tons. The figure for 1971-72 was 1.3m tons and this is expected to increase to about 1.4m tons in 1972-73.

Much of this increased trade can be attributed to a normal increase in use of the port but increases in unitised and containerised cargo handling and in handling of bulk metal concentrates account for much of the expansion. Acid production at the North-West Acid Pty Ltd plant has also added to port trade.

Large scale storage and handling facilities for metal concentrates have been provided within the port complex. The major factors which brought about the erection of these facilities were: (i) commencement of shipment of copper concentrates from Queenstown; and (ii) increased shipments of metal concentrates from Rosebery, Renison and Luina.

The major companies involved provided the facilities in the port area, while the Burnie Marine Board, at its own cost, had the necessary bulk cargo berth constructed as part of the same complex.

Works Programme

Major work undertaken during 1971-72 was the provision of a new 650 feet long general cargo berth on reclaimed land to the south of Jones Pier. Associated facilities, including rail links, a cool store, sheds and amenities, were completed during late 1972.

Port Latta (Circular Head)

A deep-water offshore terminal capable of accommodating bulk ore carriers of 60,000 to 90,000 tons capacity has been constructed at Port Latta for the export of iron ore pellets to Japan. In 1971-72 2,114,000 tons of ore were exported from the port.

The loading facility consists of a four-foot wide conveyor belt which carries pellets to two swivel loaders located a mile offshore. Vessels moor in 52 feet of water to take on pellets, the system having a discharge capacity of about 3,000 tons per hour.

The port is specialised and designed primarily for export of iron ore pellets produced at Port Latta from ore mined at Savage River. Some of the raw materials for use by the Port Latta plant are imported through the adjacent port of Stanley. Port Latta is located in an area coming under the jurisdiction of the Circular Head Marine Board.

Constitution of Marine Boards and Harbour Trusts

Introduction

Relatively early in Tasmania's history, it was decided that the control and operation of any port was best put in the hands of citizens who had a local interest in its proper management, and to this end, port administration was deliberately decentralised; the State Government, by legislation, defined the powers and duties of the new authorities it created but the detailed administration, including financial management, was left to the boards and trusts. This is still the position today, government control relating mainly to the approval of borrowing programmes.

Establishment of Boards

Operation of Tasmania's chief ports ceased to be a direct function of the government of the colony in 1857 when legislation was passed to set up the marine boards of Hobart and Launceston. Each board consisted of five wardens; the mayor and the collector of customs were *ex officio* wardens, the remaining three members being appointed as nominees of the respective Chambers of Commerce. In 1867 the Governor was empowered to create other boards, such bodies to consist of three wardens appointed by the Governor; within a year, boards had been constituted under the titles Mersey, Circular Head and Table Cape.

Boards of Hobart and Launceston

The *Marine Boards Act* 1889 created a special electorate for the Hobart and Launceston boards, the nine wardens for each to be elected by ship-owners, importers and exporters. The respective collectors of customs were required annually to compile rolls of these users of the ports and the number of votes each elector could exercise was proportional to his financial interest; for example, an exporter of goods valued from \$400 to \$3,999 had one vote, \$4,000 to \$9,999 two votes, and over \$10,000, three votes. Importers received similar voting powers in proportion to the wharfage paid while shipowners' votes were proportional to tonnage of

their vessels. It was further provided that three wardens should retire annually and the master warden be elected by board members. By an amending Act in 1895, the voting powers of importers were divorced from wharfage paid, and placed on the same basis as those exercised by exporters.

The special electorate just described continues to elect the wardens of the Hobart Marine Board; the scale of values affecting the number of votes to be exercised by importers and exporters also remains unchanged. However, in the case of the marine board for Launceston, the system of the special electorate was abolished in 1902. All Launceston citizens on the rolls for the House of Assembly became eligible to cast single votes, a right extended in 1910 to citizens in the other municipalities bordering the Tamar. In 1916 with the adoption of the Hunter scheme for improvements affecting the whole length of the river, changes were made to increase the number of wardens by representatives from the bordering municipalities. The *Marine Act 1921* reduced the number of wardens to five, restricted eligibility for standing as warden to citizens of Launceston and changed the voting qualifications so that marine board electors had to be those qualified to vote at an election of aldermen for the City of Launceston. More recently, electors in Beaconsfield and George Town have again been given voting rights.

Constitution of Boards

The present system of appointing or electing wardens is summarised as follows:

Election or Appointment of Port Authorities

Authority	Number of Wardens	System of Election or Appointment of Wardens
Hobart Marine Board	9	Special electorate of ship-owners, importers and exporters
Port of Launceston Authority	5	Electors of Launceston, Beaconsfield and George Town as for municipal elections
Burnie Marine Board	8	} Municipal electors within proclaimed areas
Devonport Marine Board	11	
Circular Head Marine Board	5	
King Island Marine Board	5	
Flinders Island Marine Board	3	} Municipal electors Government nominees
Smithton Harbour Trust	5	

Navigation and Survey Authority of Tasmania

The authority was constituted in 1963 to implement sections of the *Marine Act 1921* relating to the safety of life and property at sea. Member marine boards contribute equally to the costs of running the Authority; the income is derived from survey and service fees.

Finances of Marine Boards and Harbour Trusts

The principal sources of revenue of the port authorities are shipping tonnage rates and import and export wharfage rates; other sources are charges for pilotage services and the hiring of equipment. Expenditure is summarised under the heading 'works and services' which includes the provision of ordinary port services (e.g. pilotage, tug assistance, etc.), the maintenance of the port (e.g. dredging, etc.) and the improvement of the port (e.g. new wharfs, new berths, etc.). To raise the additional funds required to finance port improvements, the authorities borrow money subject to State Treasury approval, the Treasury acting on behalf of the Australian Loan Council and implementing its annual agreement as to the approved level of new semi-government authority borrowings.

The following table shows the revenue and loan account transactions for each authority:

Transport and Communication
Marine Boards and Harbour Trusts
Receipts and Expenditure: All Funds, 1970-71
 (\$'000)

Particulars	Authority									Total
	Hobart	Launceston	Devonport	Burnie	Circular Head	King Island	Strahan (a)	Flinders Island	Smithton	
OPENING BALANCE										
Balance at 1 July 1970 ..	3,305	561	547	851	19	40	21	23	1	5,367
REVENUE FUNDS										
Receipts—										
Wharfage Charges ..	1,016	905	733	898	20	65	1	23	..	3,660
Other Service Charges ..	356	875	317	270	54	5	..	2	2	1,880
Plant Hire	404	415	89	172	..	5	..	..	..	1,085
Govt Grants	30	..	..	..	..	..	..	..	..	30
Other (b)	224	80	45	105	..	20	..	..	1	477
Total	2,031	2,274	1,184	1,446	74	95	1	25	2	7,133
Payments (c)—										
Administration ..	263	252	113	151	10	9	1	1	1	803
Debt Charges—										
Interest	138	337	377	663	29	5	4	12	..	1,564
Redemption and Sinking Fund Contributions	250	178	249	258	25	4	5	2	..	971
Works and Services ..	771	1,089	398	285	11	45	7	12	1	2,618
Other	225	112	34	31	2	4	..	3	..	411
Total	1,646	1,968	1,171	1,388	77	67	17	29	2	6,366
LOAN FUND										
Receipts, Loan Raisings..	1,100	1,470	750	1,101	50	..	..	..	..	4,471
Payments (d)	1,965	1,614	757	673	32	..	..	..	..	5,042
MOVEMENT IN OTHER FUNDS (e)										
Movement in Other Funds	21	—271	—13	244	..	..	—5	—2	..	—26
CLOSING BALANCE										
Balance at 30 June 1971 ..	2,845	452	541	1,580	34	68	..	16	1	5,537

(a) Taken over by Hobart Marine Board, 1 October 1970.

(b) Includes interest receipts, sundry licences, fines and discounts received.

(c) Excludes amounts applied from reserves for capital purposes.

(d) Includes amounts applied from reserves for capital purposes.

(e) Net movement in balance sheet items such as debtors, creditors, trust accounts, etc.

The next table summarises the transactions of all marine boards and harbour trusts:

Marine Boards and Harbour Trusts
Receipts and Expenditure: All Funds, Summary
 (\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
OPENING BALANCE					
Balance at 1 July	4,699	5,169	5,999	4,534	5,367
REVENUE FUNDS					
Receipts—					
Wharfage Charges	2,909	3,064	3,193	3,565	3,660
Other Service Charges	1,243	1,480	1,783	1,839	1,880
Plant Hire	821	896	966	982	1,085
Government Grants	55	36	30	30	30
Other (a)	544	418	301	642	477
Total	5,572	5,894	6,273	7,058	7,133
Payments (b)—					
Administration	457	558	553	625	803
Debt Charges—					
Interest	1,018	1,149	1,246	1,403	1,564
Redemption and Sinking Fund Contributions	628	771	780	897	971
Works and Services	1,971	2,113	2,350	2,554	2,618
Other	270	279	308	344	411
Total	4,343	4,871	5,236	5,822	6,366
LOAN FUND					
Receipts—					
Loan Raisings	2,310	2,598	2,837	3,910	4,471
Other	5	1	..	20	..
Total	2,315	2,599	2,837	3,930	4,471
Payments (c)	3,110	2,810	5,536	4,140	5,042
MOVEMENT IN OTHER FUNDS (d)					
Movement in Other Funds	—5	22	197	—185	—26
CLOSING BALANCE					
Balance at 30 June	5,128	6,004	4,534	5,373	5,537

(a) Includes interest receipts, sundry licences, fines and discounts received.

(b) Excludes amounts applied from reserves for capital purposes.

(c) Includes amounts applied from reserves for capital purposes.

(d) Net movement in balance sheet items such as debtors, creditors trust accounts, etc.

Loan Debt and Borrowing

The loan debt of the marine boards and harbour trusts has increased substantially in recent years. The following table shows the growth of this debt in total and gives individual details for the four principal authorities:

*Transport and Communication***Marine Boards and Harbour Trusts****Loan Debt of Principal Authorities at End of Year**

(\$'000)

Authority	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Hobart	2,527	2,559	2,658	2,760	3,394	4,378
Launceston	2,888	2,995	3,341	4,399	5,200	6,504
Devonport	4,142	4,734	5,258	5,766	6,404	6,921
Burnie	8,766	9,740	10,443	10,782	11,554	12,462
Other	295	334	549	669	912	(a)792
Total	18,617	20,361	22,249	24,376	27,464	31,057

(a) Comprised: Circular Head, \$526,000; King Island, \$79,000; Flinders Island, \$187,000. Smithton Harbour Trust had no debt.

The next table shows a summary of annual borrowings and analyses the aggregate debt according to creditor:

Marine Boards and Harbour Trusts**Loan Raisings, Loan Debt and Sinking Funds**

(\$'000)

Year	Total Loan Raisings During Year (a)	Loan Debt at End of Year			Total of Sinking Funds at End of Year (b)
		To State Government	To Other Creditors	Total	
1960-61	1,560	18	9,280	9,298	..
1961-62	1,930	16	10,877	10,893	7
1962-63	2,167	..	12,671	12,671	24
1963-64	2,631	..	14,737	14,737	53
1964-65	2,842	..	17,102	17,102	85
1965-66	2,055	..	18,617	18,617	124
1966-67	2,310	..	20,361	20,361	182
1967-68	2,598	..	22,249	22,249	247
1968-69	2,837	..	24,376	24,376	320
1969-70	3,910	..	27,464	27,464	399
1970-71	4,471	..	31,057	31,057	500

(a) No loans were raised from the State Government during the period covered by the table.

(b) Sinking funds maintained by boards and trusts for debt redemption purposes.

SHIPPING AT TASMANIAN PORTS**System of Record**

The shipping statistics contained in this section were compiled on a new basis from 1 July 1966 and are not fully comparable with statistics published for previous periods. Prior to this date, shipping statistics were compiled from details assembled and supplied by the Department of Customs and Excise and by State marine boards. Since 1966-67 Tasmanian shipping statistics have been compiled from details submitted by shipping companies or their representatives, through the Department of Customs and Excise, for each arrival and each departure of a vessel. Not all vessels which arrived at, and departed from, ports in Tasmania are included in the new series of shipping statistics; the following are now excluded:

- (i) naval vessels;
- (ii) yachts and other craft used for pleasure;
- (iii) foreign fishing vessels that neither load nor discharge cargo;
- (iv) Australian-registered fishing vessels operating from Tasmanian ports;
- (v) geographical, seismic and oceanographic survey vessels;
- (vi) offshore oil drilling rigs and vessels servicing them; and
- (vii) vessels of 200 registered net tons and under.

Movements of Vessels

The inward and outward movements of vessels using Tasmanian ports were classified according to type of voyage and not according to the type of vessel. Each movement of a vessel was allocated to one of the following:

- (i) overseas direct;
- (ii) overseas via other State;
- (iii) interstate direct;
- (iv) overseas via port in Tasmania;
- (v) interstate via port in Tasmania; and
- (vi) intrastate.

The first three classifications (overseas and interstate movements) give an unduplicated total for Tasmania. The inclusion of the other three classifications (intrastate or coastal movements) must be taken into account to reflect the volume of shipping arriving at, or departing from, individual ports in Tasmania.

However, for 1969-70, it was decided that classification by type of voyage was unsatisfactory in two particular categories, namely:

- (ii) overseas via other State; and
- (iii) interstate direct.

While vessels confining their operations to Australian waters could never be associated with category (ii), it was nevertheless possible for vessels engaged in overseas voyages to undertake movements classified under category (iii). For example, a ship bound for the U.K. could be sailing Sydney-Hobart-Melbourne-London. The arrival in Hobart, under the pre-1969-70 classification, could be called 'interstate direct' as would the arrival in Melbourne.

For 1969-70 and following years, the classification has been varied so that categories (ii) and (iii) are based on the type of vessel, not on the type of movement. Thus, in terms of the previous example, the U.K.-bound ship's arrival both in Hobart and Melbourne would be classified 'overseas via other State', and not 'interstate direct'.

Tonnage of Vessels

The tonnage of a vessel may be expressed as: (i) gross tonnage; (ii) net tonnage; and (iii) deadweight tonnage. The concept used in the following tables is *net tonnage* which is expressed in units of 100 cubic feet (i.e. 100 cubic feet equals one ton) and represents the volume of enclosed space which can be utilised for cargo or passengers.

Overseas and Interstate Shipping

The following tables show the number of vessels entered Tasmanian ports and their net tonnage. The details are restricted to entries classified as overseas and interstate movements and exclude coastal movements of vessels.

Shipping: Overseas and Interstate (a)
Vessels Entered Ports in Tasmania, 1970-71

Port of Entry	Overseas				Interstate Direct		Total Vessels Entered	
	Direct		Via Other State					
	No.	Net Tons ('000)	No.	Net Tons ('000)	No.	Net Tons ('000)	No.	Net Tons ('000)
Hobart (b) ..	50	231	98	484	362	694	510	1,409
Burnie ..	6	21	74	343	211	662	291	1,026
Currie ..	1	..	..	..	..	..	1	..
Devonport ..	7	27	31	151	336	672	374	850
Lady Barron ..	..	..	..	..	22	13	22	13
Launceston ..	17	74	86	313	293	851	396	1,238
Stanley ..	29	598	8	175	8	28	45	801
Strahan (c) ..	..	..	..	..	..	..	..	..
Total ..	110	952	297	1,467	1,232	2,920	1,639	5,338

(a) Excludes intrastate shipping.

(b) Includes Strahan from 1 October 1970.

(c) July to September 1970 only; on 1 October 1970 the port of Strahan came under the control of the Marine Board of Hobart.

Definitions

In a later table, figures are given for total vessels entered and for total net tonnage associated with each port; the figures in each case are higher than those shown in the previous table since they include intrastate movements.

The classification 'overseas' in the preceding table is now much more meaningful since, from 1969-70, the category 'interstate direct' is not used to describe movements of ships engaged in overseas travel voyaging from one Australian State to another; the category now used is 'overseas via other State'.

Shipping: Overseas and Interstate (a), Summary
Vessels Entered Ports in Tasmania

Year	Overseas				Interstate Direct		Total Vessels Entered	
	Direct		Via Other State					
	No.	Net Tons ('000)	No.	Net Tons ('000)	No.	Net Tons ('000)	No.	Net Tons ('000)
1961-62 ..	72	268	238	1,099	1,223	1,675	1,533	3,042
1962-63 ..	83	289	331	1,447	1,200	1,739	1,614	3,474
1963-64 ..	81	275	296	1,353	1,131	1,719	1,508	3,346
1964-65 ..	83	281	238	994	1,151	2,136	1,472	3,412
1965-66 ..	123	331	264	1,092	1,258	2,464	1,645	3,887
1966-67 (b) ..	87	321	160	715	1,437	3,049	1,684	4,085
1967-68 ..	67	252	146	635	1,463	3,215	1,676	4,102
1968-69 ..	81	580	134	672	1,580	3,393	1,795	4,645
1969-70 (b) ..	113	996	462	2,035	1,184	2,543	1,759	5,574
1970-71 ..	110	952	297	1,467	1,232	2,920	1,639	5,338

(a) Excludes intrastate shipping.

(b) Not fully comparable with previous years; see beginning of this section for explanations.

Comparability

In the previous table, breaker bars are inserted to show the break in comparability between 1968-69 and 1969-70. However, there is no break in comparability affecting the columns under 'total vessels entered'. The effect of the definitional change is simply to transfer movements of overseas vessels from 'interstate direct' to the category 'overseas via other State'.

The following table has been compiled to show the country of registration of vessels entering all ports in Tasmania. The number of vessels and net tonnage figures shown in this table cannot be added to arrive at a State total as some vessels may have called at two or more ports within the State during the same voyage and are therefore subject to double, triple, etc., counting.

Country of Registration of Shipping Vessels Entered Tasmanian Ports: Overseas, Interstate and Intrastate

Country of Registration	Vessels Entered Tasmanian Ports					
	1968-69		1969-70		1970-71	
	Number	Net Tons	Number	Net Tons	Number	Net Tons
Australia	1,645	3,328,042	1,646	3,736,876	1,596	3,574,092
Bahamas	1	5,132	..	..	..	..
Belgium .. .. .	..	..	5	91,027	..	..
Bulgaria	1	4,103	2	9,292	..	..
Cyprus .. .. .	..	..	4	14,605	3	20,438
Denmark	9	32,118	7	37,679	5	13,245
France	4	1,080	2	6,522	2	10,431
Germany, East	2	5,400	..	..	..	..
Germany, West	15	48,510	11	59,967	20	94,042
Greece	10	97,923	10	123,671	8	80,061
Honduras .. .. .	..	..	2	5,326	..	..
Hong Kong	8	24,447	8	17,072	14	29,731
India	18	68,423	19	101,516	25	121,357
Indonesia	1	2,785	2	4,356	1	2,785
Ireland .. .. .	..	..	..	..	1	11,146
Israel	5	15,749	11	47,672	2	7,011
Italy	2	29,159	3	22,244	3	29,178
Japan	32	368,303	38	532,013	43	507,146
Korea, Republic of .. .. .	..	..	..	..	1	1,902
Liberia	18	153,200	27	189,750	38	367,434
Nauru .. .. .	..	..	..	..	1	5,497
Netherlands	58	173,536	46	200,045	36	179,488
Netherlands Antilles .. .. .	..	..	1	5,652	1	5,652
New Caledonia .. .. .	..	..	2	798	..	..
New Hebrides	1	225	..	..	..	..
New Zealand	36	63,485	31	55,155	29	56,104
Norway	26	146,092	28	196,319	38	204,441
Panama	3	10,920	11	30,302	14	82,838
Papua and New Guinea .. .. .	..	..	1	518	..	..
Philippines	1	2,007	1	2,756	1	3,189
Poland	5	17,886	3	10,402	12	47,854
Singapore	2	7,262	1	584	20	65,778
Somalia .. .. .	..	..	..	..	1	2,201
South Africa .. .. .	..	..	..	..	1	5,652
Spain	2	4,055	..	..	..	..
Sweden	33	149,486	41	174,407	42	228,836
United Kingdom	166	854,622	192	918,347	144	646,240
United States of America	17	81,475	16	77,867	14	63,900
U.S.S.R.	1	5,158	2	12,582	4	10,304
Yugoslavia	2	7,808	2	7,174	5	23,762

The next table shows the number and net tonnage of vessels which entered individual Tasmanian ports during 1970-71. The names of ports in this table refer to the cities or towns in which the controlling marine boards are located. Thus, Hobart includes Port Huon, Port of Spring Bay and from 1 October 1970, Strahan; 'Launceston' includes Bell Bay, Beauty Point and Inspection Head; 'Devonport' includes Ulverstone; 'Stanley' includes Port Latta; 'Currie' includes Naracoopa and Grassy; and 'Lady Barron' includes Whitemark. A State total of number of vessels entered and their net tonnage cannot be obtained from this table by adding the port totals since vessels falling within the categories 'overseas via port in same state', 'interstate via port in same state' and 'intrastate' will be counted at each port of entry as a 'vessel entered'.

Shipping: Overseas, Interstate and Intrastate

Vessels Entered Tasmanian Ports, 1970-71

Port (a) of Entry and Type of Service (b)		Vessels Entered					
		In Cargo		In Ballast		Total	
		No.	Net Tons	No.	Net Tons	No.	Net Tons
Hobart—	Overseas Direct	28	119,341	22	111,904	50	231,245
	Overseas via Other State..	92	453,460	6	30,881	98	484,341
	Overseas via Port in Same State	22	115,845	..	..	22	115,845
	Interstate Direct	301	612,704	61	81,635	362	694,339
	Interstate via Port in Same State	18	81,349	..	..	18	81,349
	Intrastate	47	46,704	4	5,578	51	52,282
	Total Hobart	508	1,429,403	93	229,998	601	1,659,401
Burnie—	Overseas Direct	3	6,035	3	14,710	6	20,745
	Overseas via Other State..	69	329,724	5	13,105	74	342,829
	Overseas via Port in Same State	25	122,261	..	..	25	122,261
	Interstate Direct	183	619,232	28	42,974	211	662,206
	Interstate via Port in Same State	49	201,736	..	..	49	201,736
	Intrastate	8	23,199	15	17,436	23	40,635
	Total Burnie	337	1,302,187	51	88,225	388	1,390,412
Devonport—	Overseas Direct	4	12,020	3	15,472	7	27,492
	Overseas via Other State..	31	151,124	..	..	31	151,124
	Overseas via Port in Same State	8	31,551	2	9,784	10	41,335
	Interstate Direct	278	602,708	58	69,444	336	672,152
	Interstate via Port in Same State	14	46,435	..	..	14	46,435
	Intrastate	68	19,038	1	607	69	19,645
	Total Devonport	403	862,876	64	95,307	467	958,183
Launceston—	Overseas Direct	14	66,528	3	7,544	17	74,072
	Overseas via Other State..	80	287,221	6	26,219	86	313,440
	Overseas via Port in Same State	28	142,571	..	..	28	142,571
	Interstate Direct	286	845,147	7	5,432	293	850,579
	Interstate via Port in Same State	45	176,386	..	..	45	176,386
	Intrastate	16	31,419	3	2,280	19	33,699
	Total Launceston	469	1,549,272	19	41,475	488	1,590,747

**Shipping: Overseas, Interstate and Intrastate
Vessels Entered Tasmanian Ports, 1970-71—continued**

Port (a) of Entry and Type of Service (b)		Vessels Entered					
		In Cargo		In Ballast		Total	
		No.	Net Tons	No.	Net Tons	No.	Net Tons
Stanley—	Overseas Direct	4	21,450	25	576,359	29	597,809
	Overseas via Other State ..	2	11,221	6	163,611	8	174,832
	Overseas via Port in Same State	4	28,802	..	..	4	28,802
	Interstate Direct	6	23,856	2	3,688	8	27,544
	Interstate via Port in Same State	2	1,441	..	..	2	1,441
	Intrastate	10	11,110	3	4,579	13	15,689
	Total Stanley	28	97,880	36	748,237	64	846,117
Currie—	Overseas Direct	1	232	..	..	1	232
	Interstate via Port in Same State	2	11,070	..	..	2	11,070
	Intrastate	2	464	61	14,152	63	14,616
	Total Currie	5	11,766	61	14,152	66	25,918
Lady Barron—	Interstate Direct	3	1,821	19	11,533	22	13,354
	Interstate via Port in Same State	1	607	..	..	1	607
	Intrastate	27	16,389	1	607	28	16,996
	Total Lady Barron ..	31	18,817	20	12,140	51	30,957

(a) See introduction to this table.

(b) Type of Service ('Overseas Direct', etc.) is defined under *Movements of Vessels* at the beginning of this section.

The following table shows, in summary form, the number and net tonnage of vessels which entered Tasmanian ports during the last three years:

**Shipping: Overseas, Interstate and Intrastate
Vessels Entered Tasmanian Ports**

Port (a) of Entry		1968-69		1969-70		1970-71	
		Number	Net Tons	Number	Net Tons	Number	Net Tons
Hobart		566	1,597,712	644	1,766,416	(b) 601	(b) 1,659,401
Burnie		550	1,352,450	452	1,562,215	388	1,390,412
Currie		4	7,362	22	7,508	66	25,918
Devonport		471	869,634	450	987,575	467	958,183
Lady Barron		12	5,988	41	20,459	51	30,957
Launceston		416	1,323,436	461	1,440,322	488	1,590,747
Stanley		61	517,841	90	896,469	64	846,117
Strahan		44	33,968	15	11,532	(c) ..	(c) ..

(a) See explanation in introduction to previous table.

(b) Includes Strahan from 1 October 1970.

(c) July to September 1970 only; on 1 October 1970 the port of Strahan came under the control of the Marine Board of Hobart.

Cargo Discharged and Shipped

Cargo handled at ports is recorded in terms of units of weight or units of measurement depending on the basis on which freight is charged. A ton measurement is a unit of 40 cubic feet. As totals derived from conversion to a common weight or alternatively to a common volume would not be accurate, entries in each of the two units are recorded and published separately.

In the next table, details are given of the cargo handled at each port in Tasmania. The classifications 'Overseas' and 'Interstate' relate either to the origin or destination of the cargo.

Cargo Discharged and Shipped
Individual Tasmanian Ports, 1970-71

Port	Overseas		Interstate		Total	
	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement
DISCHARGED						
Hobart (a)	157,655	7,367	620,086	217,679	777,741	225,046
Burnie	78,175	8,124	234,634	212,500	312,809	220,624
Currie .. ..	..	..	7,125	..	7,125	..
Devonport	21,912	644	119,630	415,870	141,542	416,514
Lady Barron .. ..	..	..	..	131	..	131
Launceston	110,008	10,054	679,259	238,788	789,267	248,842
Stanley	40,011	..	14,531	..	54,542	..
Strahan (b) .. ..	..	..	..	..	..	..
Total	407,761	26,189	1,675,265	1,084,968	2,083,026	1,111,157
SHIPPED						
Hobart (a)	273,247	39,880	459,234	149,402	732,481	189,282
Burnie	131,532	11,711	196,637	135,923	328,169	147,634
Currie .. ..	..	..	..	..	..	..
Devonport	30,939	11,581	172,590	397,243	203,529	408,824
Lady Barron .. ..	..	..	..	3,819	..	3,819
Launceston	81,188	10,991	143,272	176,979	224,460	187,970
Stanley	2,020,292	..	4,241	6,620	2,024,533	6,620
Strahan (b) .. ..	..	..	..	..	..	..
Total	2,537,198	74,163	975,974	869,986	3,513,172	944,149

(a) Includes Strahan from 1 October 1970.

(b) July to September 1970 only; on 1 October 1970 the port of Strahan came under the control of the Marine Board of Hobart.

In the preceding table the Port of Stanley emerges as a major port for the overseas shipment of cargo. However, one commodity, iron ore pellets, accounted for all but 500 tons of the cargo exported overseas from Stanley. Actual shipment of the iron ore takes place at Port Latta (a specialised port designed for loading of iron ore) which falls within the jurisdiction of the controlling port authority (Circular Head Marine Board) for Stanley.

The following table gives a summary of overseas and interstate cargo discharged and shipped at Tasmanian ports:

Cargo Discharged and Shipped, All Tasmanian Ports

Year	Overseas		Interstate		Total	
	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement	Tons Weight	Tons Measurement
DISCHARGED						
1961-62	252,278	28,850	721,099	511,145	973,377	539,995
1962-63	300,978	45,926	1,051,247	438,537	1,352,225	484,463
1963-64	326,043	43,100	1,033,230	448,997	1,359,273	492,097
1964-65	388,777	72,437	1,015,197	597,335	1,403,974	669,772
1965-66	335,700	34,944	1,097,149	708,874	1,432,849	743,818
1966-67 (a)	372,748	40,878	1,483,292	837,703	1,856,040	878,581
1967-68	260,730	41,262	1,582,038	913,020	1,842,768	954,282
1968-69	242,928	46,991	1,724,878	961,377	1,967,806	1,008,368
1969-70	322,074	45,116	1,655,955	1,095,240	1,978,029	1,140,356
1970-71	407,761	26,189	1,675,265	1,084,968	2,083,026	1,111,157
SHIPPED						
1961-62	163,402	179,845	401,461	466,189	564,863	646,034
1962-63	203,877	141,149	583,379	468,374	787,256	609,523
1963-64	154,499	253,130	629,847	384,150	784,346	637,280
1964-65	195,393	198,461	661,928	517,931	857,321	716,392
1965-66	202,820	216,277	636,957	530,090	839,777	746,367
1966-67 (a)	220,169	184,336	619,556	669,670	839,725	854,006
1967-68	272,998	249,324	685,321	755,125	958,319	1,004,449
1968-69	1,592,918	233,122	804,812	806,913	2,397,730	1,040,035
1969-70	2,544,955	92,028	920,321	801,255	3,465,276	893,283
1970-71	2,537,198	74,163	975,974	869,986	3,513,172	944,149

(a) From 1966-67 not comparable with previous years; see beginning of this section for explanation.

Passenger Movements

Statistics of overseas arrivals and departures are compiled from information supplied by the Department of Immigration under the *Migration Act* 1958-1966. The shipping companies supply details for compilation of statistics relating to inter and intrastate passenger movements.

A number of definitions, listed as follows, apply to the various categories of passenger movement by ship:

- (i) overseas passengers are persons travelling to or from overseas destinations who embark or disembark in Tasmania;
- (ii) transit passengers are persons from overseas, passing through Tasmanian ports, who continue on board the same ship to an overseas destination;
- (iii) interstate passengers are persons travelling by sea from other Australian States or round-trip passengers, i.e. passengers travelling interstate and returning either to the same port or to another port in Tasmania; and
- (iv) cruise passengers are persons on overseas journeys which have been classified as cruises by Australian authorities to simplify legal requirements. These journeys begin and end in Australia, do not exceed 30 days and are confined to the South-West Pacific.

The following table shows, for a five-year period, passenger movements at the major Tasmanian ports:

Transport and Communication
Passenger Movements, Tasmanian Ports

Port	1967	1968	1969	1970	1971
------	------	------	------	------	------

INTERSTATE, DISEMBARKING

Hobart	5,700	5,849	5,094	4,622	4,635
Launceston	6,901	7,568	9,214	11,638	11,719
Burnie	1,133	1,444	4,458	8,458	7,751
Devonport	43,245	44,506	42,116	43,612	39,625
Total	56,979	59,367	60,882	68,330	63,730

INTERSTATE, EMBARKING

Hobart	5,144	5,345	5,301	4,676	4,346
Launceston	1,405	2,053	4,263	7,430	7,582
Burnie	7,078	6,950	8,170	11,598	11,573
Devonport	42,981	44,719	41,263	44,465	39,898
Total	56,608	59,067	58,997	68,169	63,399

INTERSTATE, IN TRANSIT

Hobart	702	175	365	338	994
Launceston	730	1,123	1,120	864	720
Burnie	1,238	1,709	1,813	1,432	1,538
Devonport	31	33	38	27	69
Total	2,701	3,040	3,336	2,661	3,321

OVERSEAS, DISEMBARKING

Hobart	269	403	64	129	224
Launceston	4	1	6	6	2
Burnie	5	10	..	3	4
Devonport .. ..	..	..	2	6	..
Total	278	414	72	144	230

OVERSEAS, EMBARKING

Hobart	269	288	256	344	341
Launceston	4	10	2	3	22
Burnie	5	2	4	..	1
Devonport .. ..	..	1	2	..	..
Total	278	301	264	347	364

OVERSEAS, IN TRANSIT (a)

Hobart	2,125	2,276	1,795	2,951	962
Launceston	109	78	47	38	55
Burnie	65	36	21	23	26
Devonport	55	58	29	88	12
Total	2,354	2,448	1,892	3,100	1,055

Passenger Movements, Tasmanian Ports—continued

Port	1967	1968	1969	1970	1971
CRUISE, DISEMBARKING					
Hobart .. .. .	..	76	93	..	23
Launceston .. .. .	..	..	..	..	..
Burnie .. .. .	..	..	..	..	..
Devonport .. .. .	..	..	..	..	..
Total .. .. .	..	76	93	..	23
CRUISE, EMBARKING					
Hobart	36	123	101	..	72
Launceston .. .. .	..	..	..	..	..
Burnie .. .. .	..	..	..	..	..
Devonport .. .. .	..	..	..	..	..
Total	36	123	101	..	72
CRUISE, IN TRANSIT					
Hobart	1,206	1,184	1,679	..	1,007
Launceston .. .. .	..	..	..	..	..
Burnie .. .. .	..	..	..	..	..
Devonport .. .. .	..	..	..	..	..
Total	1,206	1,184	1,679	..	1,007

(a) Overseas passengers beginning or ending their journey in Australia.

TRANSPORT COMMISSION

Origin of Commission

The State railways operated at a considerable loss during the period following World War I and this difficulty was accentuated by the increasing use of commercial road transport. The 1938 report of the Commonwealth Grants Commission contained the following comment: 'A large State may conceivably stand the cost of duplicated transport, but it is obvious that Tasmania cannot. We believe that the Tasmanian Government appreciates this position and that it can only be met by initiative and decision.' At the time of this report, railways were controlled by a Minister; motor vehicle registration and licensing of drivers were Police Department functions; and public vehicle licensing was administered by a Transport Committee appointed by the Government.

Following an enquiry, Parliament passed the *Transport Act* 1938 establishing a new authority headed by a Commissioner and two Associate Commissioners, the associates now being the General Manager of the Railways and the Administrator of Road Transport. This Act and subsequent amending legislation had the effect of creating an administrative authority unique in Australia because the management and control of all public transport, with minor exceptions, became the responsibility of one central authority. The government omnibus services in Hobart, Launceston and Burnie and the privately-owned Emu Bay Railway are the exceptions.

Functions of the Commission

The functions of the Commission are as follows:

- (i) the control and management of the Government railways;
- (ii) the regulation and licensing of commercial road transport (i.e. of 'public vehicles');
- (iii) the registration and taxation of motor vehicles and the licensing of drivers;
- (iv) the control and operation of the Bruny Island ferry service and the Flinders Island shipping service;
- (v) the administration of regulations under the *Traffic Act* concerning road traffic control;
- (vi) the administration and control of State aerodromes;
- (vii) traffic engineering associated with the control of traffic; and
- (viii) control and operation of an engineering plant (known as the 'tool annexe').

In brief, the Transport Commission emerges as a *business undertaking*, an *administrative body* and a *taxing authority*.

Control of Commission

The Commission, by Section 6 (2) of the Act, is absolutely free from political control except that the Minister for Transport may, under Section 33, appeal to the Governor if dissatisfied with decisions of the Commission. Section 34 allows the Governor, as a form of assistance to industry in certain cases, to direct the Commission to reduce freight charges but, to the extent that such direction causes a revenue loss, the Treasurer is obliged to reimburse the Commission; the formula for reimbursement requires either acceptance of the Commission's original charges as the economic cost of the service or substitution of the Auditor-General's calculation of the economic cost, should the level of the Commission's original charges be considered uneconomic by the Auditor-General.

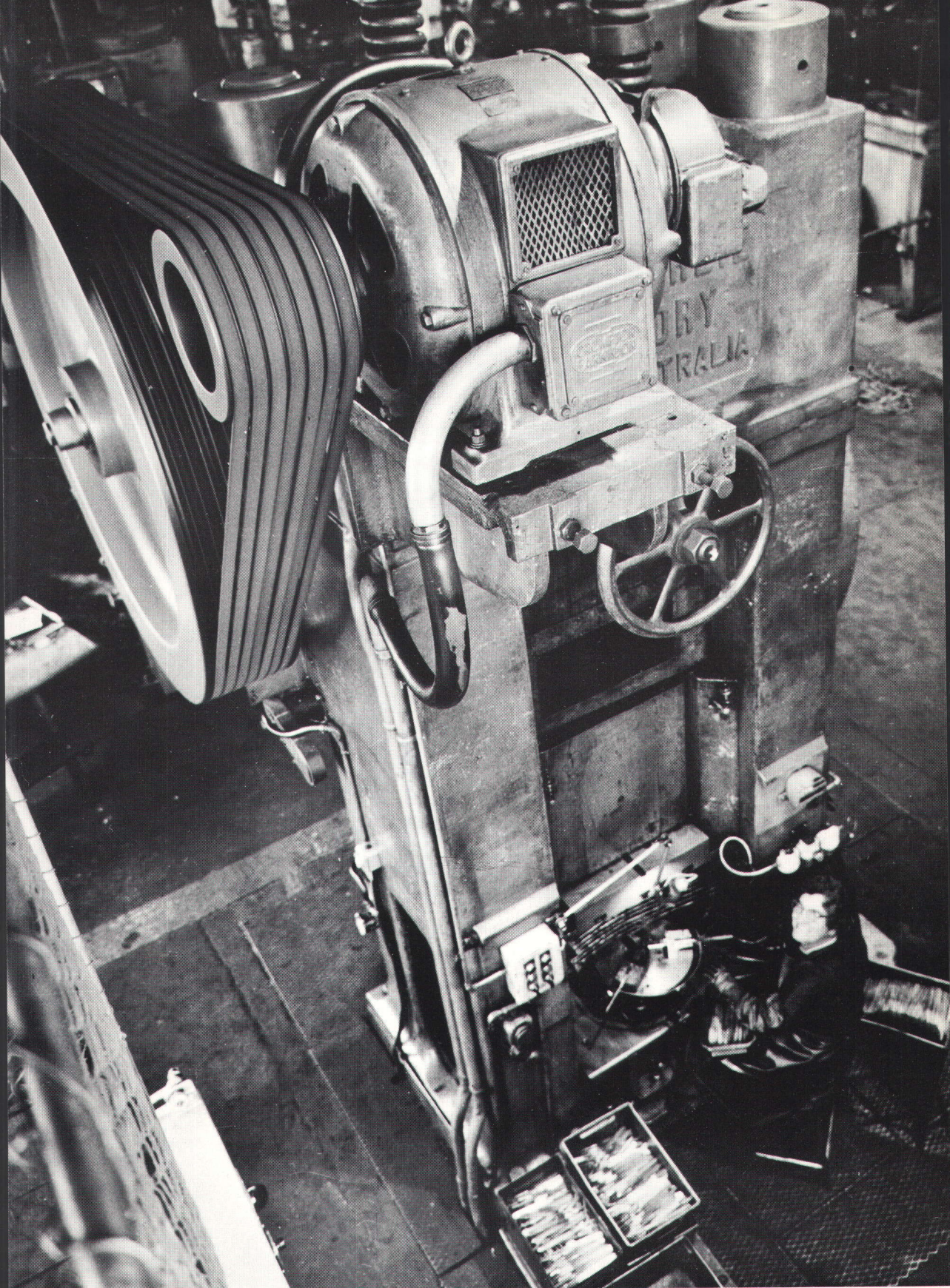
Commission's Financial Operations

The revenue of the Commission comes from three main sources:

- (i) own business undertakings—railways, shipping services and an engineering plant ('tool annexe');
- (ii) public vehicle licensing fees; and
- (iii) grants from Consolidated Revenue.

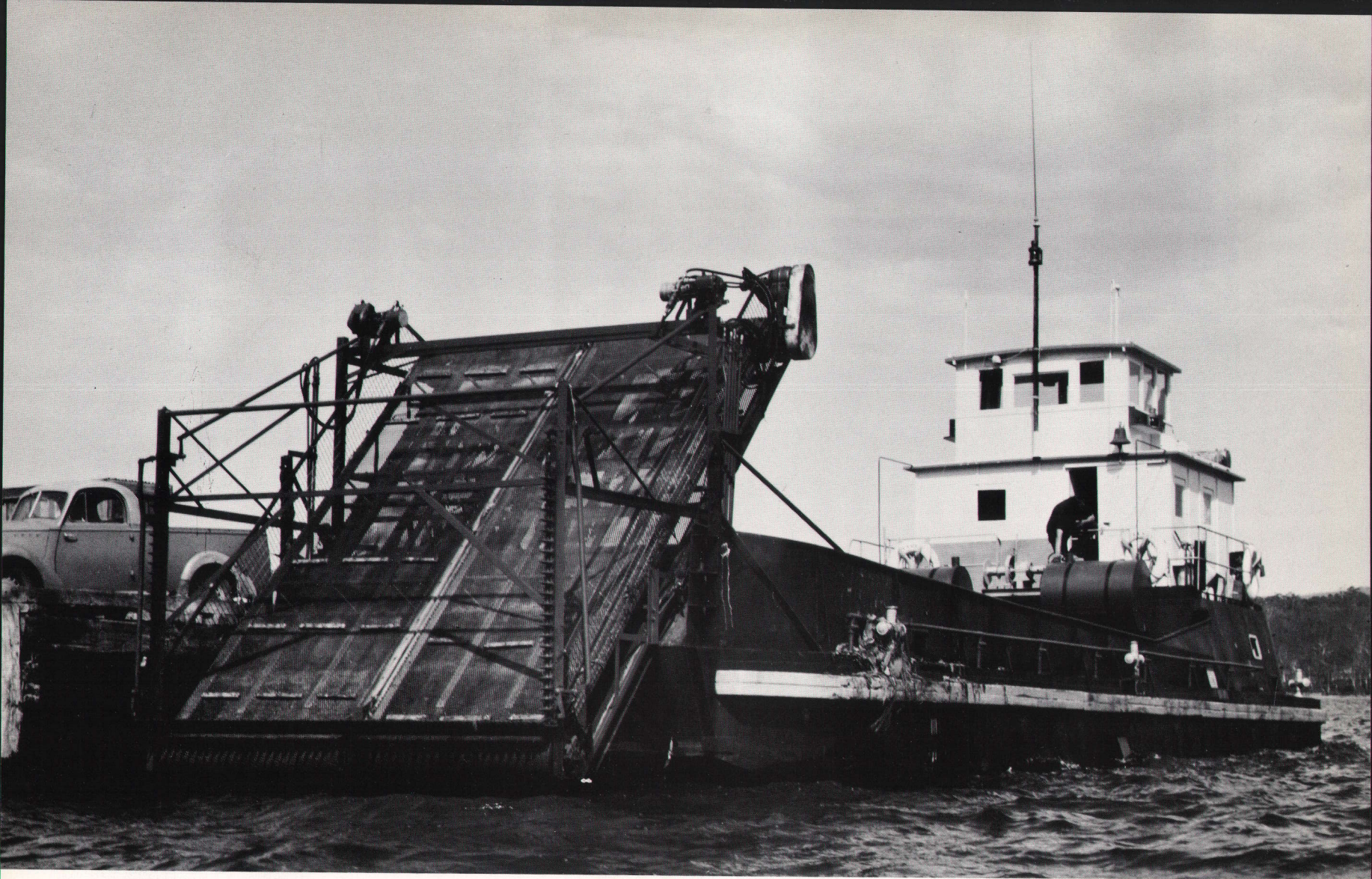
The financial transactions of the Commission are summarised in the tables that follow. For simplicity of presentation, the transactions are arranged in two sets of accounts, firstly Trading and Profit and Loss and secondly Taxation, Licensing, etc. It should be noted that the net loss in the trading and profit and loss account for any year becomes a charge on Consolidated Revenue in the following year; also that the proceeds from motor taxation, registration, licensing, etc. are passed to Consolidated Revenue, the Commission being reimbursed the costs of collecting such revenues and the costs and expenses incurred in connection with the control of, and the provision of facilities for motor traffic. A distinction is drawn, however, between public vehicle fees and public vehicle licensing; the latter charges are taken into the profit and loss account as an offset against net trading loss.

Of the total taxes and charges levied on motorists and paid into the Consolidated Revenue Fund, only the motor tax and public vehicle fees components (\$5,033,000 in 1970-71) are transferred by the Treasurer to the State Highways Trust Fund. A part of motor vehicle registration fees, licences, etc. is retained in Consolidated Revenue.



Knuckle press for forging hand tools (The Stanley Works, Hobart)

[Penny Cresswell and Associates]



'Alga', seaweed harvesting vessel of Alginates (Australia)

[Don Stephens]



Lake Mackenzie, highest water storage of Mersey-Forth scheme

[Examiner]



Wrest Point casino-hotel complex (Hobart)

[Dept of Film Production]

Transport Commission: Trading and Profit and Loss Account
(£'000)

Particulars	1967-68	1968-69	1969-70	1970-71
REVENUE				
Railways	6,852	7,214	7,245	6,125
Road Transport Services (a) ..	398	248	..	..
Marine Services	186	258	385	265
Tool Annexe	259	296	328	370
Land Tax (b)	2,271	2,352	..	..
Public Vehicle Licensing (by Transfer)	79	77	80	80
Other Revenue	111	92	101	97
Net Loss (c)	1,224	1,185	3,502	5,830
Total	11,379	11,722	11,642	12,768
EXPENDITURE (d)				
Railways	8,980	9,300	9,326	10,149
Road Transport Services (a) ..	400	252	..	..
Marine Services	229	318	374	418
Tool Annexe	241	273	307	341
General, including Administration ..	341	348	385	390
Interest	1,188	1,231	1,250	1,470
Total	11,379	11,722	11,642	12,768

(a) Operations ceased 7 December 1968.

(b) In 1969-70 the Treasurer ceased the procedure of transferring Land Tax from the Consolidated Revenue Fund to the Transport Commission.

(c) To be charged against Consolidated Revenue in following year.

(d) Provisions for depreciation included in each item (excluding interest).

The remaining transactions can be summarised as follows (road safety accounts are excluded):

Transport Commission: Motor Taxation Collection, Licensing, etc.
(£'000)

Particulars	1967-68	1968-69	1969-70	1970-71
REVENUE				
Motor Tax	4,004	4,247	4,456	4,683
Public Vehicles Licensing, Fees, etc.	403	410	443	439
Registrations, Licences, etc. ..	1,080	1,150	1,262	1,593
Refunds of Stamp Duty .. .. .	..	-1	-1	-1
Stamp Duty on Vehicle Registrations	217	343	365	396
Transfers from Consolidated Revenue—				
Road Transport Administration ..	430	464	599	726
Traffic Engineering Section ..	249	268	295	356
Minister for Transport .. .. .	..	..	15	22
Total	6,382	6,882	7,435	8,214
EXPENDITURE				
Profit and Loss Account (Transfer)				
(a)	79	77	80	80
Paid to Consolidated Revenue ..	5,660	6,107	6,480	7,066
Administration, Traffic Control, etc.	661	702	903	1,073
Total	6,401	6,886	7,463	8,218

(a) Receipts from public vehicle licensing paid into profit and loss account.

Annual Loss

In 1968-69 and earlier years the Commission received two grants from Consolidated Revenue: (i) reimbursement of the previous year's loss; and (ii) a grant equal to State Land Tax collections. From 1969-70, the loss incurred by the Commission for the previous year has been reimbursed by a single grant from Consolidated Revenue (\$3,502,058, the loss for 1969-70 reimbursed during 1970-71). The accounts reveal that the Commission's net loss occurs principally in respect of railways but the case for continued subsidisation is argued on a number of grounds: (i) abandonment of all railway operations would still leave the State with liability for annual debt charges exceeding \$1m; (ii) heavy bulk freights now carried by rail would rapidly break up present road surfaces if they were transferred to road haulage, and considerable sums would have to be spent on increased road maintenance or road improvements; and (iii) for certain types of freight, rail transport is still considered more economical than road haulage therefore closing the railways might add appreciably to the costs of many primary and secondary producers.

Transport Commission Shipping Services

The Transport Commission exercises control over: (i) the Bruny Island ferry; and (ii) shipping services between Flinders Island, Hobart, Launceston and Victorian ports.

During 1967-68 a Government-appointed committee recommended the replacement of the *Sumatra* with a larger, more economic vessel. The newly constructed *Birthe Andreassen* renamed *Joseph Banks* was purchased and extensively converted to suit the requirements of the intrastate trade. The vessel commenced operating in January 1969 on the inter-island run and between Tasmanian and Victorian ports.

The new ship is better able to handle livestock and has a carrying capacity of either approximately 5,000 sheep or 800 head of cattle. During 1970-71 the *Joseph Banks* made 176 port calls, and carried 11,177 tons of general cargo, 49,000 sheep and lambs and 7,800 cattle.

RAILWAYS

Historical

Tasmania has a three feet six inch gauge government railway system based on a route mileage of 500 miles. A private railway of 83 miles is operated by the Emu Bay Railway Company Ltd between Burnie and Melba Siding (12 miles south of Rosebery).

The first railway in Tasmania was opened for traffic in 1871 (construction having begun three years earlier on a 45-mile line from Deloraine to Launceston). It is significant that only one-ninth of the original capital was subscribed by the shareholders of the Launceston and Western Railway Company, the remainder, \$800,000, being raised by the Government. The line was laid in broad gauge (five feet three inch) without regard for the fact that narrower gauge might be needed in the more mountainous parts of the island. Within a year of opening the company was in financial difficulties and the line was taken over by the Government. At the date of starting construction, the island's population had not passed 100,000.

The second line was an even more ambitious undertaking—123 miles of three feet six inch track from Hobart to Western Junction, linking there with the five feet three inch line—and involved considerable problems of contour survey because of the high plateau lying across the route. The Tasmanian Main Line Railway Company opened the line for traffic in 1876. The problem of differing gauges on the two systems was overcome by laying a third rail on the ten miles of the five feet three inch track from Western Junction to Launceston, the Main Line Company having running rights over this stretch. In 1890 the Government purchased the line for \$2,213,000.

The next line to open for traffic (1884) was owned by the Emu Bay and Mount Bischoff Railway Company which converted an existing horse-tramway to three feet six inch gauge; the 48-mile line connected Waratah to the port of Burnie, the primary objective being to ship out freight from the rich Mount Bischoff tin mines.

By 1890 the essential framework of the present railway system on three feet six inch gauge had been laid, and future growth involved track extensions mainly in directions already determined in the first twenty years of rapid construction. The following table shows the pattern of development in 1890 and compares it with that of the present system. Under 'route' is shown firstly the terminals of individual tracks in 1890 and secondly the present extent of the same tracks. Only construction dates before 1890 have been quoted since later extension of track was carried out in several stages.

Government and Private Railways
Route Mileage of Lines Open: 1890 and 1972

Route	Area Served	Year Open For Traffic	Mileage of Lines Open	
			1 Jan. 1890	30 June 1972
Launceston to Devonport ..	North-West	1885	(a)82	..
Launceston to Smithton ..	" "	..	..	(a)178
Hobart to Western Junction ..	North-South Link	1876	(b)122	(a)123
Burnie to Waratah ..	West Coast	1884	(b)48	..
Burnie to Melba Siding ..	" "	..	..	(b)83
Conara to St Marys ..	Fingal Valley	1886	(a)47	(a)47
Bridgewater to Glenora ..	Derwent Valley	1888	(a)24	..
Bridgewater to Florentine ..	" "	..	..	(a)44
Launceston to Scottsdale ..	North-East	1889	(a)47	..
Launceston to Herrick ..	" "	..	..	(a)85
Other Branches ..	..	..	(a) 4	(a)23
Total Route Miles Open ..	..	..	374	583
Government ..	..	..	203	500
Private ..	..	..	171	83

(a) Government.

(b) Private.

The table does not show two defunct lines which used to operate on the west coast; these were: the government service, Zeehan to Strahan (29 miles), opened in 1892; and the private service, Queenstown to Strahan (21 miles), opened in 1899. The Emu Bay railway had reached Zeehan by 1900 when it became possible to make a Burnie-Queenstown trip by using all three services and moving Burnie-Zeehan-Strahan-Queenstown.

In 1965, the Emu Bay Railway Company Ltd closed the line from Rosebery to Zeehan; 12 miles of this line, from Rosebery to Melba Siding, were re-opened in January 1970 to enable the transportation of iron pyrites to the North-West Acid Pty Ltd plant at Burnie.

Work commenced in 1971 on the construction of a new rail link from Cold Water Creek to the Port of Bell Bay, a distance of some 23 miles.

Growth and Decline

The main task of developing and maintaining railways became the responsibility of the Tasmanian Government after it purchased the Hobart-Western Junction line in October 1890.

The next table shows the mileage of Government-owned railways from 1895 to the present:

Government Railways: Route Mileage of Lines Open at 30 June

Year	Route Miles Open	Year	Route Miles Open	Year	Route Miles Open
1895 (a)	420	1930	679	1955	605
1905	463	1935	645	1960	538
1915	533	1940	644	1965	500
1920	629	1945	642	1970	500
1925	673	1950	613	1972	500

(a) At 31 December 1895.

The peak of development was reached in 1930 when 679 miles were open for traffic; since then, many branch lines have been closed down, the competition of road transport making their operation uneconomic. Route mileage has actually declined to what it was over 50 years ago at the outbreak of World War I. Examples of lines now closed down are: Brighton to Apsley, 27 miles; Bellerive to Sorell, 15 miles; and Zeehan to Strahan, 29 miles.

Recent Developments

The long-term problem of the State railway system has been to reduce its annual operational loss. Cost increases, particularly wages and salaries, without comparable increases to freight rates and fares have added to this problem. (During 1970-71 the wage and salary bill for railway employees exceeded railway revenue by 30 per cent.) In August 1968 the Transport Commission appointed a Committee of Review to undertake a comprehensive study of the railway system with the purpose of improving the financial situation. Since the presentation of the Committee's report in January 1969, the Commission has begun to carry out progressively the Committee's recommendations. Various organisational changes have been instituted, including the establishment of a research and development section, the reconstitution of a commercial section and the amalgamation of some administrative functions. Other cost reducing measures implemented include: (i) closure of uneconomic rail sidings; and (ii) an improved method of railway accounting. The new accounting system collates the costs for operating trains, terminals, marshalling areas, track sections, classes of rolling stock and wagons and plant and other equipment.

Bell Bay Rail Link

Although various proposals to construct the link had been made, some dating as far back as 1912, it was not until two woodchip exporting companies announced proposals to construct shipping berths at Long Reach, near Bell Bay, that the link was considered economically feasible. Work started on the project in late 1971. Total cost of the link and associated works is estimated at \$30.86m.

The project involves: (i) the construction of a new section of railway on the eastern bank of the Tamar River from Cold Water Creek to Bell Bay; (ii) up-grading of existing track between Launceston and Cold Water Creek, and purchase of eight heavy-duty main-line locomotives and 200 bogie log wagons; (iii) construction of new running lines and loops in Launceston; (iv) a bridge across the North Esk River; and (v) a spur line to serve the two woodchip plants at Long Reach. The new locomotives will be capable of hauling a trailing load of about 1,200 tons on a gradient of 1 in 70. The new bogie wagons will have a maximum gross tonnage of 58 tons.

Finance for the project is being provided by the State and Commonwealth Governments and the two woodchip companies. The State is paying the major portion of the cost; maximum Commonwealth assistance is \$5m, of which 30 per cent is a grant and the remainder an interest bearing loan repayable over 30 years.

The planned completion date for the Bell Bay rail link was mid-October 1972; however, adverse weather conditions delayed operations and set back the expected opening to early 1973.

Operating Statistics

The next table shows the principal operating statistics for the Tasmanian system:

**Tasmanian Government Railways
Operating Statistics**

Year					Route-Mileage Open (a)	Revenue Train-Mileage	Passenger- Journeys	Goods and Livestock Carried
					Miles	'000 Miles	'000	'000 Tons
1965-66	..	..	..	..	500	1,283	1,304	1,072
1966-67	..	..	..	..	500	1,274	1,197	1,079
1967-68	..	..	..	..	500	1,247	1,087	1,162
1968-69	..	..	..	..	500	1,197	1,045	1,242
1969-70	..	..	..	..	500	1,180	907	1,258
1970-71	..	..	..	..	500	1,096	871	1,201

(a) At end of period.

Financial Operations

The following table gives details of gross earnings and working expenses:

**Tasmanian Government Railways
Financial Operations**

Year	Gross Earnings		Working Expenses (a)		Net Earnings (b)	
	Total	Per Revenue Train-Mile	Total	Per Revenue Train-Mile	Total	Per Revenue Train-Mile
	\$'000	\$	\$'000	\$	\$'000	\$
1965-66
1966-67
1967-68
1968-69
1969-70
1970-71

(a) Includes provision for depreciation but excludes interest.

(b) Excess of gross earnings over working expenses.

Employment and Wages

In the table that follows, details are given of the number of employees, and of wages and salaries paid:

**Tasmanian Government Railways
Number of Employees and Wages and Salaries Paid**

Year	Average Number of Employees (a)		Salaries and Wages Paid (\$'000)	Year	Average Number of Employees (a)		Salaries and Wages Paid (\$'000)
	Salaried	On Wages			Salaried	On Wages	
1963-64	1967-68	..	..	..
1964-65	1968-69	..	..	..
1965-66	1969-70	..	..	..
1966-67	1970-71	..	..	..

(a) Excludes construction staff.

Comparison with Other Australian Systems

The Tasmanian system of government railways is the smallest in Australia and the following table, showing principal operational details, allows a comparison to be made:

Australia: Government Railway Systems, 1970-71
Operating Statistics

System	Route-Mileage Open	Revenue Train-Mileage	Passenger-Journeys (a) (b)	Revenue Goods and Livestock Carried (a)	Revenue Net Ton-Miles
	Miles	'000 Miles	'000	'000 Tons	Millions
N.S.W.	6,061	39,540	254,787	33,204	5,538.1
Victoria	4,166	20,831	142,211	12,490	2,118.7
Queensland	5,797	17,368	29,536	15,418	3,316.4
S.A.	2,413	6,344	13,946	5,990	986.9
W.A.	3,837	7,944	10,919	13,244	2,078.0
Tasmania	500	1,096	871	1,201	94.2
Commonwealth	2,248	4,010	(c) 259	(d) 4,382	1,282.1
Total Australia	25,022	97,133	452,530	85,929	15,414.5

(a) Interstate traffic is included in the total for each system over which it passes.

(b) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys.

(c) Passenger journeys continuing over both the Trans-Australian and Central Australian Railway systems are counted twice. In 1970-71 these numbered 11,227.

(d) Tonnages carried over both the Trans-Australian and Central Australian Railway systems are counted twice. In 1970-71, 230,670 tons were counted twice.

The financial operations of the six State railways and the Commonwealth Government line are shown below:

Australia: Government Railways, 1970-71
Financial Operations
(\$ Million)

System	Gross Earnings (a)	Working Expenses (b)	Net Earnings (c)	Plus Other Earnings Payable to Railways (d)	Less Other Expenses Charged to Railways (e)	Surplus or Deficit
N.S.W.	251.9	242.8	9.1	3.2	38.7	-26.5
Victoria	108.6	129.1	-20.4	0.1	8.7	-29.0
Queensland	110.2	105.2	5.0	..	27.4	(f) -22.4
S.A.	34.4	(g) 42.7	-8.3	14.7	8.0	-1.6
W.A.	60.7	(g) 59.7	1.0	1.2	13.0	-10.7
Tasmania	5.8	(g) 9.9	-4.1	0.1	1.3	-5.4
Commonwealth	29.0	(g) 29.4	-0.4	..	..	-0.4
Total Australia	600.6	618.7	-18.1	19.4	97.2	-96.0

(a) Excludes Government Grants and road motor services.

(b) Excludes road motor services.

(c) Gross earnings less working expenses. See note (a) and (b).

(d) Includes State Government Grants and road motor earnings.

(e) Includes interest and exchange, sinking fund, road motor expenses and other expenses charged to railways.

(f) Includes deficit (\$891,298) on the Queensland 4 ft 8½ in gauge.

(g) Includes provision of reserves for depreciation.

Financial Comparison

In comparing the financial results of the Tasmanian system with those of other authorities, certain difficulties arise from the treatment of depreciation. In the preceding table, working expenses for the Tasmanian, S.A., W.A. and Commonwealth systems include provision of reserves for depreciation. A further complication arises from the fact that interest is not charged against the railways accounts of the Commonwealth system, and in the Victorian system only in respect of loan expenditure incurred since 1 July 1960.

To the extent that there is differing treatment of interest and of depreciation provisions in the various systems, the 'surplus or deficit' shown in the table is not a good basis for making comparisons; however, if due allowance is made for interest charges in the case of the Commonwealth system, it will be seen that loss, rather than profit, is characteristic of all Australian systems.

GOVERNMENT OMNIBUS SERVICES

Introduction

The only Government road services in operation from 8 December 1968 (when the Transport Commission road services were discontinued) are those operated by the Metropolitan Transport Trust at Hobart, Launceston and Burnie. Previous to this date the Transport Commission operated omnibus services throughout the State. However, following trading losses on the operation of the Transport Commission's omnibus services during 1965-66 and 1966-67 Parliament refused approval for continuation of the service. The *Transport Commission (Road Transport Undertaking Disposal) Act* 1968 required the Commission to sell its omnibus fleet to a private operator. Disposal of the fleet was completed in December 1968. For statistics of the omnibus services operated by the Transport Commission see the 1970 and earlier *Year Books*.

Metropolitan Transport Trust

Until 1955, tramway, trolley-bus and omnibus services were operated in Hobart and Launceston by the municipal authority in each city. The Hobart system had operated without subsidy but the Launceston system received, as one item of revenue, the annual proceeds from a special tramways rate.

The *Metropolitan Transport Act* 1954 empowered the State to enter into agreements for the acquisition of the two systems and to vest them in the newly constituted semi-government authority named in the Act. After negotiation with the two municipal authorities, the Trust arranged to take over the Hobart system from 28 February 1955, and the Launceston system from 1 July 1955. It was part of the agreement that the Trust should reimburse to the municipal authorities the annual charges relating to the loan debt of each system. Future capital was to come from the State loan fund. During 1959-60, the Trust commenced the operation of omnibus services in Burnie.

The present service is based entirely on omnibuses, although trolley-buses were in use on some Hobart and Launceston routes as late as 1968. It was in October 1960 that the Trust closed down the last of the tramway services in Hobart; Launceston City had closed down all its tramway services before the city transport system was taken over by the Trust in July 1955. One paradoxical feature of recent years is the decline in passenger journeys, despite increases in urban population; increasing private motor vehicle ownership explains this trend.

Financial Operations of Trust

The following table shows the income and expenditure of the Metropolitan Transport Trust:

Transport and Communication

Metropolitan Transport Trust
Income and Expenditure
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
INCOME					
Traffic Operations	2,093	2,125	2,235	2,297	2,284
Other Earnings	31	33	35	35	38
Subsidy, State Government	975	875	1,030	1,011	1,418
Total	3,099	3,033	3,300	3,343	3,739
EXPENDITURE					
Traffic Operations	1,505	1,561	1,688	1,785	2,040
Maintenance	499	518	492	530	578
Power and Fuel	210	235	226	218	250
Workshop and Stores ..	62	51	49	55	56
Administration and General	339	369	405	415	462
Debt Charges	170	157	156	147	144
Depreciation Charges ..	223	232	234	208	211
Total	3,008	3,122	3,250	3,358	3,741

A break-down of income earned from traffic operations in the three centres (Hobart, Launceston and Burnie) for 1970-71 follows (in \$'000): Hobart, 1,675; Launceston, 470; and Burnie, 138.

Loan Debt of Trust

The loan debt of the Trust is partly in respect of debentures and inscribed stock originally issued by the Launceston Corporation. Debentures originally issued by the Hobart Corporation have been fully repaid, the last instalment being made in 1965-66. At 30 June 1971, loans of this nature stood at \$3,383; net advances from the State Loan Fund stood at \$2,648,000.

Operating Statistics

The next table shows the principal operating statistics for the Metropolitan Transport Trust:

Metropolitan Transport Trust
Operating Statistics

Particulars	1966-67	1967-68	1968-69 (a)	1969-70 (a)	1970-71 (a)
Route-Miles (b)—					
Trolley-bus	28	28			
Omnibus	184	191	221	238	238
Vehicle-Miles—					
Trolley-bus .. '000	1,052	773	151		
Omnibus '000	4,284	4,604	5,242	5,430	5,447
Passenger-Journeys .. '000	22,248	21,819	21,246	20,707	20,797

(a) Trolley-buses ceased operating in Launceston on 19 July 1968 and in Hobart on 24 November 1968.

(b) At end of period.

At 30 June 1971 the Metropolitan Transport Trust had a fleet of 295 vehicles comprising 283 passenger buses and 12 maintenance vehicles. Disposition of the fleet was: Hobart, 196 passenger buses and seven maintenance vehicles; Launceston, 65 passenger buses and four maintenance vehicles; and Burnie, 22 passenger buses and one maintenance vehicle.

ROADS

Scope

The details in the following section refer to: (i) 'classified' roads; (ii) roads of local government authorities; and (iii) roads of other government authorities. A further qualification is that the roads are those normally open to traffic.

In the first table showing mileages, there has been a substantial reduction in 1971 figures for classified roads and for roads of local government authorities; this is due principally to revisions based on a Public Works Department survey involving actual field measurement, but some of the reduction in the length of the classified system is due to improvements (new by-passes, bend elimination, etc.).

Definitions and Mileages

(i) *Classified Roads*: These are roads for which the State Government accepts direct responsibility, the construction and maintenance authority being the Public Works Department. The mileage of classified (or State) roads at 30 June 1971 was as follows: State highways, 1,197 miles; main roads, 663 miles; secondary roads, 188 miles; tourist roads, 47 miles; and developmental roads, 85 miles; total State roads, 2,180 miles.

(ii) *Roads of Local Government Authorities*: The roads for which the local government authorities accepted responsibility at 30 June 1971, comprised: sealed roads, 1,895 miles; unsealed roads, 6,304 miles; total 8,199 miles.

(iii) *Roads of Other Government Authorities*: Roads which were the responsibility of these authorities at 30 June 1971, comprised: roads of the Hydro-Electric Commission, 316 miles; Forestry Commission, 2,152 miles; total 2,468 miles. The Hydro-Electric Commission mileage (316) includes the road built from Maydena to the Gordon-Serpentine junction; this 53-mile route in the south-west was opened for public use in June 1967 but permits to travel on it have to be obtained from the controlling authority.

It is not generally recognised that the Hydro-Electric Commission, intent on developing the State's power supplies, has made valuable contributions to Tasmania's road system. Roads, originally built to give access to construction sites, have later been absorbed into the classified road system and therefore are available for general use. This type of development has not come to an end and new roads are likely to result from the future operations of the authority in the Pieman River area of the West Coast, and in the region of the major rivers further south. The main areas where the authority's activities have already affected the road system are in the upper Derwent; Great Lake; Mersey Valley; and remote south-west areas.

Surface of Roads

The following table shows mileages of all roads normally open to traffic classified according to road surface and according to the level of government which accepts responsibility for construction and maintenance. The most striking feature is the increase, over the last five years, in the percentage of State (or classified) roads with sealed surfaces; as the table indicates, the sealed mileage has increased from 66.4 per cent to 82.4 per cent. The majority of the unsealed State (or classified) road mileage is located in the centre of the State, where the high altitude *Lake* and *Lyell Highways* present serious construction problems. However, during 1970-71 further sealing work was carried out on both of these highways. On the *Lake Highway* an additional 3.1 miles were sealed while on the *Lyell Highway* the unsealed segment was reduced to a section 12.5 miles long.

Length of Roads According to Nature of Surface at 30 June

Type of Surface	1966	1967	1968	1969	1970	1971
CLASSIFIED STATE ROADS						
Sealed (a) .. miles	1,492	1,551	1,626	1,702	1,765	1,796
Unsealed (b) .. miles	754	597	575	505	451	384
Total .. miles	2,246	2,148	2,201	2,207	2,216	2,180
Sealed Ratio (c) .. %	66.4	72.2	73.9	77.1	79.6	82.4
ROADS OF LOCAL GOVERNMENT AUTHORITIES (d)						
Sealed (a) .. miles	1,354	1,539	1,689	1,845	2,045	1,895
Unsealed (b) .. miles	7,373	7,516	7,434	7,240	7,092	6,304
Total .. miles	8,727	9,055	9,123	9,085	9,137	8,199
Sealed Ratio (c) .. %	15.5	17.0	18.5	20.3	22.4	23.1
ROADS OF OTHER GOVERNMENT AUTHORITIES						
Sealed (a) .. miles	47	44	52	52	65	74
Unsealed (b) .. miles	1,807	1,941	2,037	2,200	2,335	2,394
Total .. miles	1,854	1,985	2,089	2,252	2,400	2,468
Sealed Ratio (c) .. %	2.6	2.2	2.5	2.3	2.7	3.0
ALL ROADS (d)						
Sealed (a) .. miles	2,893	3,134	3,367	3,599	3,875	3,765
Unsealed (b) .. miles	9,934	10,054	10,045	9,945	9,878	9,082
Total .. miles	12,827	13,188	13,412	13,543	13,753	12,847
Sealed Ratio (c) .. %	22.6	23.8	25.1	26.6	28.2	29.3

(a) Bitumen or concrete

(b) Includes roads formed or cleared only.

(c) Sealed roads as a proportion of total roads.

(d) See introductory section under 'Scope' for explanation of apparent drop in mileage in 1971.

Classified (or State) Roads

The next table analyses the mileage of classified roads according to their description and surface. The principal State highways include the following: (i) *Arthur* (46 miles), from Sorell to Port Arthur; (ii) *Bass* (176 miles), from Launceston to Marrawah in the far north-west; (iii) *Channel* (59 miles), from Hobart to Huonville, via D'Entrecasteaux area; (iv) *Huon* (62 miles), from Hobart to Hythe via Dover; (v) *Lake* (93 miles), from Deloraine via Great Lake to Melton Mowbray; (vi) *Lyell* (176 miles), from Granton, near Hobart, to Strahan; (vii) *Midland* (114 miles), from Glenorchy to Launceston; (viii) *Murchison* (48 miles), from Zeehan Highway to Waratah area; (ix) *Tasman* (263 miles), from Hobart to Launceston, via east coast and St Helens; (x) *Waratah* (45 miles), from Somerset to Waratah area.

Classified (or State) Roads
Description and Length of Roads at 30 June 1971

Description	Nature of Surface		Total
	Sealed (a)	Unsealed (b)	
Highways	1,095	102	1,197
Main Roads	540	123	663
Secondary Roads	87	101	188
Tourist Roads	4	43	47
Developmental Roads	71	14	85
Total	1,796	384	2,180

(a) Bitumen or concrete.

(b) Gravel or stone.

Expenditure on Roads

As indicated in the preface to this section, the responsibility for road construction and maintenance is placed upon the State Government and upon local government and semi-government authorities. The next table gives a detailed analysis only of funds available to the State Government and expenditure from State road funds:

State Road Funds: Receipts and Payments
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
RECEIPTS					
Motor Vehicle Taxation, Registration, Licences, Fees, Fines, etc.	3,961	4,396	4,587	4,827	5,033
Commonwealth Grants	7,500	8,000	8,500	9,100	10,230
State Loan Fund	1,693	1,188	739	1,100	1,020
Contributions by Local Government Authorities	19	18	17	18	17
Other	176	438	102	128	93
Total	13,349	14,040	13,945	15,173	16,393
PAYMENTS					
Construction and Reconstruction of Roads and Bridges	10,182	10,848	10,180	11,322	12,320
Maintenance of Roads and Bridges	3,162	3,159	3,263	3,662	4,297
Planning and Research .. .. .	..	..	..	120	185
Total	13,344	14,007	13,442	15,105	16,802

Grants under Commonwealth Aid Roads Acts provide the bulk of the funds with a major contribution also coming from the motoring public. The main item of expenditure is for the construction and reconstruction of roads and bridges.

Receipts and Expenditure, Local Government Authorities

Some of the expenditure appearing in the State Road Funds table consists of grants from the State Government to local government authorities, although such grants are not specifically dissected. In Chapter 4, 'Local Government', details will be found of: (i) grants from the State to local government authorities for road purposes; (ii) road rates collected by local government authorities; and (iii) expenditure on road construction and maintenance by local government authorities from revenue, and from loan funds.

MOTOR VEHICLE REGISTRATIONS**General**

Statistics in this section deal with: (i) motor vehicles 'on register' at specific dates; and (ii) new motor vehicles registered within a specified period, e.g. a year.

Definitions

Register: To be allowed on the public roads, motor vehicles, except those owned by the Commonwealth Government, are required to be registered with the State Transport Commission; State Government vehicles, as well as privately-owned vehicles, are registered with this authority. Commonwealth Government-owned vehicles, except those belonging to the defence services, are recorded on a separate Commonwealth register. 'On the register', in this section, refers to both the State and Commonwealth registration records, and to all motor vehicles except those of the defence services. Statistics of new motor vehicle registrations comply with the same definition.

Vehicles Included: The statistics cover cars, station wagons, motor cycles and commercial vehicles. Commercial vehicles as defined include utilities, panel vans, trucks and omnibuses. Tractors, trailers and mobile plant and equipment are excluded.

Because of the multi-purpose nature of rear-door sedans it is possible for these types of vehicles to be registered as either cars or stations wagons. In these statistics all rear-door sedans are classified as cars.

Vehicles on Register

The following table has been compiled to show, in summary form, the increase in motor vehicles on the register since 1910. To give a convenient measure of this growth, vehicles on the register have been related to the population (vehicles per 1,000 persons), and increases have also been expressed as annual averages for each decade.

Motor Vehicles on Register from 1910

At 30 June	Cars and Station Wagons	Com- mercial Vehicles	Motor Cycles	All Vehicles		
				Total	Per 1,000 of Population	Average Annual Increase (a)
1910	210	(b)	223	433	2	..
1920	2,404	(b)	1,699	4,103	20	367
1930	12,533	2,198	4,814	19,545	89	1,544
1940	17,598	5,235	3,351	26,184	109	664
1950	25,291	12,928	4,941	43,160	156	1,698
1960	63,748	26,352	3,098	93,198	271	5,004
1970	119,274	34,519	3,116	156,909	400	6,371
1971	125,718	35,064	3,453	164,235	422	..

(a) For decade ending in year shown.

(b) Included with cars and stations wagons.

The next table gives details of motor vehicles on the register during the past decade; annual increases are shown to allow comparison with the average annual rates for each decade appearing in the previous historical table.

Motor Vehicles on Register

At 31 December	Cars and Station Wagons	Com- mercial Vehicles	Motor Cycles	All Vehicles		
				Total	Per 1,000 of Population	Annual Increase
1962	75,697	27,275	2,101	105,073	293	5,009
1963	81,642	28,125	1,856	111,623	308	6,550
1964	88,084	29,005	1,586	118,675	324	7,052
1965	94,039	29,823	1,441	125,303	339	6,628
1966	99,947	31,184	1,562	132,693	355	7,390
1967	104,652	31,908	1,833	138,393	r 366	5,700
1968	111,163	33,218	2,501	146,882	r 384	8,489
1969	116,785	34,210	2,948	153,943	r 398	7,061
1970	122,790	34,753	3,281	160,824	r 413	6,881
1971	128,880	35,362	3,662	167,904	428	7,080

Motor Vehicles on Register in Australia

While different concepts of what constitutes 'motor vehicles on register' at a particular point of time may be appropriate for different purposes; for the purpose of obtaining uniform statistics for all States and Territories, it is necessary to adopt a common concept of what constitutes motor vehicles 'on register' at a particular date. For this series, the Bureau has adopted the concept of motor vehicles on register at a particular date as being:

- (i) vehicles whose fees were paid up at that date, in respect of that date; and
- (ii) vehicles whose fees were not paid up at that date but subsequently were paid retrospectively to that date (or to an earlier date);

and excluding all vehicles whose fees were not subsequently paid up in respect of that particular date, even though at that date their registrations may not have been formally terminated.

The following table shows estimated details of motor vehicles on the register for each State and Territory at 30 June 1971. They were compiled from data supplied by the various registration authorities and include diplomatic and consular vehicles and all Commonwealth-owned vehicles other than those belonging to the defence services.

Australia: Motor Vehicles on Register, 30 June 1971

State or Territory	Cars and Station Wagons	Commercial Vehicles	Motor Cycles	All Vehicles	
				Total	Per 1,000 of Population
N.S.W.	'000 1,419	'000 329	'000 62	'000 1,810	no. 394
Victoria	1,122	236	29	1,387	397
Queensland	533	172	25	729	400
S.A.	384	89	16	488	416
W.A.	346	108	13	467	455
Tasmania	126	35	3	164	422
N.T.	18	10	2	29	339
A.C.T.	55	8	3	66	459
Total	4,003	987	153	5,140	404

Registration of New Motor Vehicles

In the next table, details are shown of new motor vehicles registered in Tasmania over a five-year period:

Annual Registrations of New Motor Vehicles

Type of Vehicle	1967	1968	1969	1970	1971
Cars	9,543	9,915	9,798	10,364	10,633
Station Wagons	1,619	1,396	1,335	1,250	1,282
Utilities	1,243	1,134	1,114	1,144	1,076
Panel Vans	499	479	522	532	624
Trucks	802	680	777	720	714
Motor Cycles	575	851	763	804	851
Other (a)	88	115	90	109	108
Total	14,369	14,570	14,399	14,923	15,288

(a) Includes omnibuses, ambulances and hearses.

New Registrations According to Make

The table that follows analyses Tasmanian registrations of new cars and new station wagons according to make, and illustrates the present popularity of Holden, Ford, Chrysler, Toyota and Datsun makes.

Registrations of New Cars and New Station Wagons, 1971
Classified to Predominant Make

Make	Cars		Station Wagons	
	Number	Proportion of Total Cars (Per Cent)	Number	Proportion of Total Station Wagons (Per Cent)
Austin	194	1.8	..	..
B.M.W.	17	0.2	..	..
Chrysler (a)	1,194	11.2	150	11.7
Datsun	634	6.0	50	3.9
Fiat	119	1.1	3	0.2
Ford	2,294	21.6	273	21.3
Holden	3,692	34.7	701	54.7
Honda	80	0.8	..	..
Jaguar	17	0.2	..	..
M.G.	29	0.3	..	..
Mazda	484	4.6	19	1.5
Mercedes Benz	52	0.5	..	..
Morris	357	3.4	..	..
Peugeot	48	0.5	2	0.2
Rambler	22	0.2	..	..
Renault	141	1.3	..	..
Rover	17	0.2	..	..
Statesman	43	0.4	..	..
Toyota	743	7.0	20	1.6
Triumph	83	0.8	..	..
Volkswagen	305	2.9	59	4.6
Volvo	24	0.2	..	..
Other	44	0.4	5	0.4
Total	10,633	100.0	1,282	100.0

(a) Comprises vehicles originally registered as Chrysler, Commer, Dodge, Hillman and Mitsubishi.

'Scrapping' of Motor Vehicles

Apart from the few 'veteran' cars owned by enthusiasts, most vehicles are eventually scrapped. No information is collected on the number scrapped each year but the following table contains information from which some inferences may be drawn:

New Motor Vehicles Registered and Annual Increase in Motor Vehicles on Register

Particulars	1966	1967	1968	1969	1970	1971
New Motor Vehicles Registered (a)	13,282	14,369	14,570	14,399	14,923	15,288
Annual Increase, Motor Vehicles on Register (b)	7,390	5,700	8,489	7,061	6,881	7,080

(a) During year ended 31 December.

(b) Annual increase measured at 31 December.

In comparing the two sets of figures in the previous table, it would be wrong to assume that the difference in each year represented scrapped vehicles only; exceptions would include vehicles transferred interstate and vehicles 'on blocks'—the fact that an owner has let a registration expire does not necessarily mean that he intends to scrap his vehicle. Subject to these and similar difficulties of interpretation, it would appear that about seven thousand motor vehicles have been scrapped annually since 1966.

ROAD TRAFFIC ACCIDENTS IN TASMANIA**Scope of Statistics**

With the rapid development of road transport, there has been an increase in the number of road traffic accidents; some merely involve damage to vehicles, but others result in injury or death. To evolve meaningful statistics describing these events, it has been found necessary to narrow the field of observation to those road traffic accidents which involve casualties, since some accidents resulting only in vehicle damage are not reported to the police (the drivers might merely exchange names and report to their respective insurance companies). Further, there is the difficulty of fixing, in monetary terms, some valid standard for determining what degree of vehicle damage warrants inclusion of an accident in a long-term statistical series—obviously \$20 or \$50 for repairs in 1950 is not comparable with \$20 or \$50 for repairs now.

For these and other reasons, the statistics in this section are restricted to details of those road traffic accidents involving casualties requiring medical or surgical treatment, or causing death and which were recorded by the police.

Source of Data

Details of each road traffic accident reported to the police, or investigated by the police, are recorded on a standard form and copies are made available to the Transport Commission and to the Bureau of Census and Statistics; at the Bureau, quarterly statistics are compiled only from those reports describing accidents involving casualties. The Transport Commission employs the reports it receives in connection with road engineering, the location of traffic signs and signals, the pin-pointing of dangerous locations, traffic engineering, and accident prevention in general.

Responsibility for, and Cause of, Accidents

For the purposes of the statistics in this section, the police officer reporting the accident determines, on the basis of the evidence available, the road user or agency responsible, and also the cause of the accident. The fact that civil or criminal courts may later make different decisions on these matters is disregarded in these statistics; nor is any attempt made to distinguish between accidents giving rise to subsequent legal action and those not doing so.

Causes of Accidents

Causes of accidents in Australian States are classified, for statistical purposes, in accordance with a standard list of 76 prime causes (although, in this section, only the most frequent causes are shown). Contributory causes and conflicting or incomplete evidence make precise classification difficult. No provision is made to record and classify such antecedent causes as fatigue, the influence of intoxicating liquor, discourtesy, impatience or other driving faults (e.g. 'intoxication' is listed as a possible prime cause but where evidence of intoxication is inconclusive, the reporting police officer usually shows some more immediately apparent cause).

Road Traffic Accident Statistics

The following table summarises the principal statistics of road traffic accidents involving casualties from 1949-50:

Road Traffic Accidents Involving Casualties, Selected Years from 1949-50

Period	Accidents		Persons			
	Number	Per 10,000 Vehicles Registered (a)	Killed		Injured	
			Number	Per 10,000 Vehicles Registered (a)	Number	Per 10,000 Vehicles Registered (a)
1949-50	969	242	64	16.0	1,154	288
1959-60	743	82	79	8.7	1,004	111
1964-65	1,180	99	97	8.2	1,692	142
1966-67	1,356	102	102	7.7	2,081	157
1967-68	1,268	91	112	8.1	1,990	143
1968-69	1,400	95	122	8.3	2,228	151
1969-70	1,413	92	122	7.9	2,268	147
1970-71	1,396	87	124	7.7	2,031	126

(a) Based on average number of motor vehicles on register during period. 'Vehicles on Register' is defined in the earlier section headed 'Motor Vehicle Registrations'.

It can be inferred from the above table that the annual totals of accidents involving casualties, and of persons killed and injured, have increased at a much slower rate than have motor vehicles on the register. In 1950, there were 43,160 motor vehicles on the register at 30 June, the corresponding figure for 1971 being 164,235; in the period covered by the table, the registration figure has increased almost fourfold, whereas accidents and casualties have less than doubled, which has caused the *rates* per 10,000 vehicles to fall significantly.

Location of Accidents

The first table shows the location of accidents in the State:

Road Traffic Accidents and Casualties by Local Government Area, 1970-71

Local Government Area	Accidents Involving Casualties	Persons Killed	Persons Injured
Hobart	294	20	380
Launceston	146	4	185
Glenorchy	122	8	179
Clarence	106	16	157
Burnie	83	4	126
Devonport	72	6	114
Other	573	66	890
Total	1,396	124	2,031

Responsibility for Road Accidents

The next table shows the agency or type of road user believed responsible:

Responsibility for Road Traffic Accidents, 1970-71

Responsibility Attributed to—	Accidents Involving Casualties	Persons Killed	Persons Injured
Drivers of Motor Vehicles	1,004	72	1,594
Riders of Motor Cycles	65	10	60
Pedal Cyclists	25	5	21
Pedestrians	193	23	178
Passengers	7	..	8
Motor Vehicle Defects	31	1	52
Motor Cycle Defects	2	1	3
Pedal Cycle Defects .. ..	..	..	..
Animals	4	..	4
Road Conditions	33	4	53
Weather	9	..	13
Parties not Involved (a)	19	..	32
Other Causes	4	8	13
Total	1,396	124	2,031

(a) e.g. a car collides with another, after swerving to avoid a pedestrian who is not struck.

Causes of Accidents—Drivers of Motor Vehicles Responsible

The next table analyses accidents for which drivers of motor vehicles were believed responsible:

Road Traffic Accidents, Drivers of Motor Vehicles Responsible, 1970-71

Classification According to Cause

Principal Causes of Accidents for which Drivers of Motor Vehicles (excluding Motor Cycles) were Responsible	Accidents Involving Casualties	Persons Killed	Persons Injured
Excessive Speed Having Regard to Conditions	204	29	361
Not Keeping to the Left	80	6	148
Not Giving Right of Way to Other Vehicles at Intersection	198	2	314
Failing to Make Right-hand Turn at Intersection with Due Care	89	2	133
Intoxicated	126	14	201
Inexperienced, including Inexperienced with Type of Vehicle in use at Time of Accident	20	3	37
Inattentive Driving	96	6	130
Reversing Without Care	10	1	10
Overtaking on Near-side or in the Face of Oncoming Vehicle(s) or Without Enough Clearance	33	3	46
Following Other Vehicle Too Closely	42	..	63
Infirmity of Driver	3	..	4
Driver Asleep or Drowsy	24	1	34
Dazzled by Lights of an Approaching Vehicle	2	..	7
Failing to Signal Intention of Turning or Stopping, or Giving Incorrect Signal	7	1	13
Pulling or Swinging out from Kerb Suddenly or Without Warning	12	..	16
Disregarding, Misunderstanding or Failing to Observe Traffic Sign or Signal of Other Driver	33	..	51
Crossing Railway Level Crossing Without Due Care	4	1	5
Hit-run Drivers (n.e.i.)	17	1	16
Other Causes	4	2	5
Total	1,004	72	1,594

A summary of road traffic accidents for which drivers of motor vehicles were responsible follows:

Road Traffic Accidents, Drivers of Motor Vehicles Responsible (a): Summary

Accidents Involving Casualties	1966-67	1967-68	1968-69	1969-70	1970-71
Drivers of Motor Vehicles Responsible—					
Number of Accidents	973	996	1,077	1,032	1,004
Proportion of Total Accidents %	71.8	78.5	76.9	73.0	71.9

(a) Excludes drivers of motor cycles.

Causes of Accidents—Pedestrians Responsible

The table below analyses road traffic accidents for which pedestrians were held responsible:

**Road Traffic Accidents, Pedestrians Responsible, 1970-71
Classification According to Cause**

Principal Causes of Accidents for which Pedestrians were Responsible	Accidents Involving Casualties	Persons Killed	Persons Injured
Walking Across Roadway Without Due Care	75	9	70
Running Across Roadway	37	2	37
Passing Behind or in Front of Moving or Stationary Vehicle or Object	14	1	13
Stepping Off Kerb Without Due Care	6	1	6
Intoxicated	11	..	11
Children Under Seven Years of Age not Under, or Breaking Away from, the Supervision of an Older Person	43	8	35
Other Causes	7	2	6
Total	193	23	178

Road Features and Accidents

The next table analyses all accidents according to the road features at the site. Most accidents occur at intersections although almost as many happen on straight roads.

Features of Roadways on Which Accidents Occurred, 1970-71

Feature of Roadway	Accidents Involving Casualties	Persons Killed	Persons Injured
At Intersections—			
Controlled	77	3	104
Uncontrolled	424	17	611
Other than at Intersections—			
Straight Road	468	46	618
Bend or Curve—			
View Open	244	31	398
View Obscured	153	24	265
Bridge, Culvert or Causeway	18	1	23
Top of Hill	5	..	5
Railway Level Crossing	6	2	6
Other Locations	1	..	1
Total	1,396	124	2,031

Types of Accidents

Most accidents arise from collisions between vehicles, followed by vehicles overturning or leaving the road, as shown in the following analysis:

Types of Accidents, 1970-71

Type of Accident	Accidents Involving Casualties	Persons Killed	Persons Injured
Collisions Between Vehicles	728	54	1,161
Vehicle—			
Overtaking or Leaving Road	368	41	566
Colliding With—Fixed Object (incl. Parked Vehicle)	53	..	74
Animal	4	..	4
Pedestrian	236	29	219
Passenger Accidents	6	..	6
Other Types of Accidents	1	..	1
Total	1,396	124	2,031

Road Users Killed or Injured

The next table analyses the type of road user killed or injured:

Type of Road User Killed or Injured, 1970-71

Type of Road User Involved	Killed			Injured		
	Males	Females	Persons	Males	Females	Persons
Drivers of Motor Vehicles	33	6	39	682	156	838
Motor Cyclists	14	..	14	120	10	130
Pedal Cyclists	5	..	5	32	3	35
Passengers (all Types) ..	22	15	37	393	421	814
Pedestrians	20	9	29	126	87	213
Other .. ..	..	..	..	1	..	1
Total	94	30	124	1,354	677	2,031

Age and Responsibility

Drivers of motor vehicles (excluding motor cycles) were believed responsible for 1,004 out of the 1,396 accidents involving casualties which were reported to the police during 1970-71. The following table analyses the age and sex of the drivers responsible:

Road Traffic Accidents, 1970-71
Age and Sex of Drivers of Motor Vehicles Responsible

Age Group of Drivers Responsible (in Years)	Male Driver			Female Driver		
	Accidents Involving Casualties	Persons Killed (a)	Persons Injured (a)	Accidents Involving Casualties	Persons Killed (a)	Persons Injured (a)
Under 21	263	27	454	34	4	47
21-29	260	22	427	37	1	59
30-39	107	4	150	21	1	33
40-49	98	6	145	23	3	35
50-59	60	2	90	12	..	18
60 and Over	55	1	89	6	..	10
Not Stated (b)	25	1	33	3	..	4
Total	868	63	1,388	136	9	206

(a) The age groups relate to the driver who may, or may not be included in the casualty figures.

(b) Including accidents for which hit-run drivers were responsible.

Days of the Week on Which Accidents Occurred

The following table shows accidents and casualties according to the day of the week on which they occurred:

Road Traffic Accidents, 1970-71
Days of the Week on Which Accidents Occurred

Day of the Week	Accidents Involving Casualties	Persons Killed	Persons Injured
Monday	144	8	200
Tuesday	153	15	198
Wednesday	125	10	158
Thursday	179	13	237
Friday	277	21	410
Saturday	326	41	507
Sunday	192	16	321
Total	1,396	124	2,031

Age and Sex of Road Users Killed

The next table shows the age and sex of the various types of road user killed:

Road Traffic Accidents, 1970-71
Age and Sex of Road Users Killed

Age Group (in Years)	Type of Road User Killed					All Road Users
	Driver of Motor Vehicles	Motor Cyclists	Pedal Cyclists	Passengers (All Types)	Pedestrians	
MALES						
Under 7 .. .. .	..	..	..	1	6	7
7-16	2	4	5	4	3	18
17-20	12	8	..	9	2	31
21-29	12	2	..	4	1	19
30-39	3	..	..	1	2	6
40-49	2	..	..	2	..	4
50-59 .. .. .	..	..	..	1	..	1
60 and Over	2	..	..	..	6	8
Not Stated .. .. .	..	..	..	..	..	..
Total	33	14	5	22	20	94
FEMALES						
Under 7 .. .. .	..	..	..	1	3	4
7-16 .. .. .	..	..	..	2	1	3
17-20	2	..	..	3	..	5
21-29	1	..	..	3	..	4
30-39	1	..	..	2	..	3
40-49	1	..	..	1	..	2
50-59 .. .. .	..	..	..	1	1	2
60 and Over	1	..	..	2	4	7
Not Stated .. .. .	..	..	..	..	..	..
Total	6	..	..	15	9	30

CIVIL AVIATION IN TASMANIA

Introduction

On 16 December 1919 Lt Arthur Long of the Army Flying Corps crossed Bass Strait to Melbourne. Shortly afterwards he started an aerial newspaper-carrying business between Hobart and Launceston.

In 1932 Mr L. Johnson began a Launceston-Flinders Island service and in the same year Victor and Ivan Holyman began a similar service with a De Havilland Fox Moth.

The Holyman brothers entered into a partnership with Johnson and by 1933 the company was serving Smithton and King Island. In 1934 the company became Holyman Airways Pty Ltd and operated a Bass Strait service to Melbourne with DH 86 Dragon aircraft.

The first reliable interstate service commenced in 1936 when a DC 2 was introduced on the Victorian route.

During 1936 Holyman Airways and Adelaide Airways Ltd merged to become Australian National Airways Ltd and the new company operated services between all States. At the present time services to and from Melbourne are provided from and to Hobart, Launceston, Devonport, Wynyard, Flinders Island and King Island by Trans-Australia Airlines and Ansett Airlines of Australia.

Intrastate Services

Supplementary intrastate services have operated since May 1964. Aerial Services of Tasmania operate commuter services on the intrastate routes linking Hobart, Launceston, Devonport, Wynyard, Queenstown and Strahan.

Administration of the Air Navigation Act and Regulations in Tasmania

The Federal *Air Navigation Act* 1920-71 and associated regulations are administered for Tasmania by the Regional Director, Victoria-Tasmania region; the authority is the Civil Aviation Department. The Department's more important functions include the provision and maintenance of government aerodromes, the licensing of aircraft and pilots, and a responsibility for supervising all aspects of air safety.

Classification of Flying Activities

Flying activities are classified by regulation into the following well-defined categories:

- (i) *Private Operations*: Private use of aircraft may be gauged by the fact that there were 500 licensed *private* pilots in the State in June 1972.
- (ii) *Aerial Work Operations*: These operations refer to aircraft used for aerial survey; spotting; agriculture; advertising; flying training; ambulance service; police or customs work; or for the carriage of goods owned by the pilot, the owner or the hirer, for the purposes of trade. Within Tasmania there are four licensed flying training organisations and one aerial agricultural organisation carrying out most of the aerial work activities.
- (iii) *Charter Operations*: These refer to aircraft hired for passenger or freight movement, but not according to fixed schedules, or to and from fixed terminals. There were 11 licensed charter operators based in Tasmania in June 1972.
- (iv) *Commuter Operations*: These are charter operations on a fixed schedule, and to or from fixed terminals; they are authorised by an exemption granted under *Air Navigation Regulations*. Tasmania has one approved operator.
- (v) *Regular Public Transport*: This refers to aircraft carrying freight and passengers according to fixed schedule, and operating on specified routes. All services of this kind are provided in Tasmania by T.A.A. and Ansett Airlines.

Tasmanian Aerodromes

The major aerodromes in Tasmania are owned and operated by the Commonwealth Government through the Department of Civil Aviation. The following describes both Commonwealth-owned and other aerodromes in use at 30 June 1972.

Hobart

Hobart airport, Commonwealth-owned, is 11 miles east of the city and ranks seventh in the volume of passengers handled at Australian terminals. It was completed in 1956. Extension and strengthening of the runway, taxiway and aprons to take DC9 and Boeing 727 aircraft at full weight was completed in 1966. The airport is equipped with complex aviation aids.

Launceston

This Commonwealth-owned airport, 10 miles south-east of Launceston, ranks next after Hobart in passenger volume but handles considerably more freight.

The area control centre provides air traffic control for Tasmania via repeater stations, south on Mt Wellington and north on Mt Barrow. The airport is also used for flying training and other light aircraft charter and aerial work operations.

Devonport

The Devonport Commonwealth-owned aerodrome was originally constructed in the early 1930s. In 1950 it was developed to handle DC3, DC4 and Viscount type aircraft. Regular passenger services (using F27 aircraft), aerial and charter work, flying training and private operations are carried on from this location.

Wynyard

The Wynyard Commonwealth-owned aerodrome has one sealed runway 4,400 feet and one 3,900 feet long for regular public transport operations, charter, aerial work and private operations.

King Island

King Island airport is a Commonwealth-owned aerodrome situated four miles north-east of Currie. It has three gravel runways, night lighting and radio navigational equipment.

Flinders Island

Flinders Island Commonwealth-owned aerodrome is situated three miles north of White-mark. It has three grassed landing strips strengthened with some gravel and is equipped with aircraft navigation aids and radio.

Smithton

Situated two miles west of Smithton, this licensed aerodrome is owned by the Transport Commission. It has a sealed main runway plus lesser gravel strips and is used for itinerant charter and private flights.

St Helens

St Helens has a licensed aerodrome owned and operated by the Municipality of Portland. A grassed strip 3,900 feet long and 300 feet wide is of sufficient dimension to permit operations by DC3 and F27 type aircraft. The aerodrome currently serves the charter, aerial work and private operation requirements for the area and has a non-directional beacon for instrument navigation.

Queenstown

The Municipality of Queenstown provided an authorised landing area for light aircraft in 1937. In 1963 work was commenced on the construction of a runway suitable for the operation of DC3 type aircraft at Queenstown under the Local Ownership Plan; it was opened on 17 April 1966.

Strahan

The port of Strahan serves the west coast of Tasmania and, in particular, the Queenstown and Zeehan areas. Opened for regular public transport operations in 1964, Strahan aerodrome was constructed under the Commonwealth Aerodrome Local Ownership Plan and is owned by the Municipality of Strahan.

Cambridge

This government aerodrome was constructed during the early days of aviation and comprised four runways. With hills in the near vicinity the site could not be developed and, following construction of the new Hobart Airport, was retained for flying training activities and light aircraft operations.

Aircraft, Passenger and Freight Movements

The following table shows the number of aircraft movements at the principal airports in Tasmania during the past decade. For the purposes of the statistics in this table a take-off is regarded as one movement and a landing as another.

Aircraft Movements: Principal Airports

Year	Hobart	Launceston	Devonport	Wynyard	King Is.	Flinders Is.
1961	6,750	12,190	2,316	2,234	1,424	904
1962	6,233	11,318	2,058	2,142	1,338	772
1963	6,342	11,424	2,126	2,100	1,338	876
1964	8,198	12,136	3,418	3,240	1,430	1,030
1965	8,108	12,085	3,456	3,566	1,408	1,036
1966	7,914	11,299	3,525	3,469	1,342	940
1967	7,680	10,707	4,221	4,350	1,272	770
1968	7,671	11,386	3,754	4,055	1,278	728
1969	7,216	10,658	3,643	4,192	1,212	657
1970	(a)6,301	10,463	3,649	3,727	1,297	600
1971	(a)6,404	11,165	4,039	4,056	1,221	609

(a) The phasing-out of turbo-prop aircraft and the introduction of pure jet aircraft has increased carrying capacity and reduced the number of flights required.

The next table shows the volume of passengers and freight handled at each airport; the following definitions apply:

Passengers: The figures are for fare-paying passengers only at each airport and are the sum of embarkations and disembarkations.

Freight: The figures are the sum (in tons of 2,000 lb) of all revenue freight (including excess baggage) loaded and unloaded at each airport.

Passenger and Freight Movements: Principal Airports (a)

Year	Hobart	Launceston	Devonport	Wynyard	King Is.	Flinders Is.
PASSENGERS ('000)						
1967	183	156	59	57	16	11
1968	190	161	64	54	17	10
1969	198	176	70	60	18	11
1970	209	186	67	64	20	10
1971	226	205	76	71	23	10

Passenger and Freight Movements: Principal Airports (a)—continued

Year	Hobart	Launceston	Devonport	Wynyard	King Is.	Flinders Is.
FREIGHT (SHORT TONS)						
1967	6,518	8,093	768	918	407	435
1968	6,193	8,299	653	1,114	458	375
1969	7,027	8,467	322	1,694	452	318
1970	7,392	10,487	320	310	435	207
1971	7,439	10,726	367	315	519	177

(a) See definitions preceding this table.

Comparison of Principal Australian Airports

The next table shows the volume of activity at the principal Australian airports in terms of the number of passengers, freight and aircraft movements. Details of international services have been excluded so that comparisons are purely in terms of domestic traffic (international services are centred on Melbourne, Sydney, Brisbane and Perth).

Australia: Principal Airports
Passengers, Freight and Aircraft Movements (a), 1971

Airport	Passengers	Freight (Short Tons)	Aircraft Movements
Sydney	3,591,112	48,054	75,093
Melbourne (b)	2,811,816	53,261	58,063
Brisbane	1,404,927	22,447	31,570
Adelaide	1,028,013	16,541	21,131
Perth	541,412	10,040	11,985
Canberra	624,986	3,886	17,099
Hobart	226,215	7,439	6,404
Launceston	205,221	10,726	11,165

(a) See definitions earlier in this section.

(b) Includes traffic in and out of Essendon prior to 20 June 1971.

POSTAL AND TELECOMMUNICATION SERVICES

Development of Communication Services

General

The Commonwealth Postmaster-General's Department provides and controls postal facilities and telecommunication services in Tasmania. Basically the Australian Post Office consists of two services, *postal* and *telecommunications*, supported by engineering, supply, finance and accounting, personnel and administration establishments.

The Postal Service

The first long-distance mail service in Australia was started between Hobart and Launceston in 1816, the carrier walking both ways and taking a fortnight for the round trip.

By 1835 Hobart Town and its environs was served by a thrice daily, twopenny post; today the service is once per day at a cost of seven cents. The number of individual postal articles handled in Tasmania in 1970-71 amounted to 67 million as compared with more than 2,780 million articles handled by the Post Office throughout Australia.

All letter class mail, within the dimensions of *Post Haste*, to and from Tasmania is carried by air, free of airmail surcharge, while the bulk of 'Other Article' mail is received and despatched daily by ship. In the more heavily populated areas of the State, one mail delivery is made daily except in the Hobart inner-city area where two deliveries are effected. The rationalisation of rural postal services in recent years has preceded improvement of rural mail delivery services.

A recent development of postal services has been the extension of *Priority Paid* mail. This service covers city and some suburban posting points and provides overnight deliveries to suburban areas of all capital cities.

Telecommunications

Hobart and Launceston were linked by a telegraph line in 1857 and two years later a Bass Strait cable was in operation, only to fail in 1861. By 1869 a second cable was laid and communication with overseas countries became possible in 1872 when the Overland Telegraph was established between Adelaide and Darwin.

The first telephone line in Tasmania linked Hobart and Mt Nelson signal station in 1880, both Hobart and Launceston having exchanges by 1883. However, no link with Victoria or overseas countries was provided until 1936.

The State is now served with a network of high-capacity, high-quality trunk channels which are extended to other Australian States and linked with the Seacom and Compac cables connecting Australia to overseas countries. There are also links to the Overseas Telecommunications Commission earth satellite stations at Carnarvon, Ceduna and Moree.

Telegraph: The teleprinter exchange (TELEX) had only one Tasmanian subscriber in 1957 but 225 were connected by 30 June 1971. The TELEX service is fully automatic and subscribers can now contact each other without an exchange operator's assistance. Calls can be made automatically to 28 of the 116 overseas countries tied in with Australian telegraphic services, while the remainder can be contacted through an exchange operator.

Telephones: The Post Office is working towards a highly automated telephone system in Tasmania. More than 92 per cent of telephone subscribers in the State are connected to automatic exchanges which provide continuous service.

The installation, in recent years, of the high-capacity trunk channels, known as the Broad-band System, together with modern trunk switching exchanges, has enabled the Post Office to provide Subscriber Trunk Dialling (S.T.D.) facilities for the direct dialling of trunk calls. This facility enables subscribers to make direct long-distance calls to anywhere in Australia, where the facility operates, by simply dialling the required number. Nearly 80 per cent of telephone subscribers in Tasmania have access to S.T.D. which avoids the delays associated with manually-operated exchanges. Charges are based on actual time used and there is no minimum time period as with manually booked trunk calls.

Facilities for Data Transmission are also available from the Post Office in Tasmania.

Construction: In recent years, the Post Office in Tasmania has had a policy of installing underground cables which have higher traffic densities. This policy, resulting in a reduction of overhead wires, is illustrated in the following table:

Cable and Aerial Wire Mileages at 30 June

Particulars	1967	1968	1969	1970	1971
Aerial Wire, Single Wire Mileage ..	55,403	48,398	45,732	32,815	28,302
Conductors in Cable, Single Wire Mileage (a)	575,073	633,709	698,168	761,300	792,991
Co-axial Cable, Tube Miles (a)	437	437	573	563	586

(a) Laid underground.

Employment

The next tables analyse the total number employed by the Department in Tasmania:

Postmaster-General's Department
Persons Employed by Category at 30 June 1971

Full-time Employees (a)	No.	Others	No.
Permanent Officers	2,687	Non-Official Postmasters and Staff ..	230
Temporary and Exempt Officers (b) ..	793	Telephone Office Keepers	7
		Mail Contractors (c)	85
		Part-time Employees	26
	3,480		348

(a) Full-time employees are those directly under the control of the Department. The remainder shown as 'Others' provide services, which may or may not occupy their full time, under contract or in return for payments appropriate to work performed.

(b) Exempt staff are persons exempt from the provisions of the *Public Service Act* (Federal).

(c) Includes persons employed to drive vehicles.

Persons Employed at 30 June (a): Summary

Year	Number	Year	Number
1962	4,077	1967	4,247
1963	4,144	1968	4,188
1964	4,184	1969	4,034
1965	4,169	1970	4,030
1966	4,254	1971	3,828

(a) Total full-time and other persons included in preceding table.

Revenue and Expenditure

The table that follows gives details of the financial operations of the Department in Tasmania. The following points of explanation are necessary:

Cash Receipts: Prior to 1968-69, cash receipts were paid into the Commonwealth Consolidated Revenue Fund; since 1968-69, they have been paid into the Post Office Trust Account which forms part of the Trust Fund of the Commonwealth.

Cash Expenditure: Up to, and including 1967-68, cash payments for 'Non-capital Works' and 'Capital Works' were made from the Commonwealth Consolidated Revenue Fund. From 1968-69, cash expenditures were made from the Post Office Trust Account. Interest and super-annuation liability are not brought to account in this table.

Postmaster-General's Department: Financial Operations in Tasmania, 1970-71

Cash Receipts (a)		Cash Expenditure (b)	
Particulars	\$'000	Particulars	\$'000
Postal	4,297	Salaries and Wages	14,819
Telephone	13,441	Material	5,222
Telegraph	397	Carriage of Mails by Contractors ..	328
Proceeds of Sales	232	Buildings, Sites and Properties ..	578
Recoverable Works	671	Accommodation Services	602
International Services	30	Other (c)	1,114
Total	19,068	Total	22,663

(a) Excludes revenue earned but not actually received.

(b) Excludes expenditure incurred but not actually paid.

(c) Includes Travelling Allowances, Repairs to Plant, Engineering Works and Hire of Vehicles.

Operations of the Department

Apart from its obvious role of providing communication facilities through various media, the Department provides a money order and postal order service and also acts as an agent for a number of other instrumentalities in transactions which include: savings banks deposits and withdrawals; payment of pensions and allowances; War Service Homes repayments; sale of State duty stamps, etc.

Money Orders: An order may be obtained for sums up to \$80 on a single order. Orders for overseas are limited to \$50, and a remitter may send only one such order in any week.

Postal Orders: A system of *postal orders* replaced a system of *postal notes* from 1 June 1966. Postal Orders provide security since they can be traced and may also be 'crossed' like a bank cheque. The highest denomination is \$10.

Postal Services

The following table shows the volume of mail handled and the monetary transactions carried out through use of the Post Office in Tasmania:

Postal Services

Particulars	Unit	1966-67	1967-68	1968-69	1969-70	1970-71
Post Offices—Official ..	no.	55	56	53	52	50
Unofficial ..	no.	421	389	344	322	307
Postal Traffic (a)—						
Letters, Postcards, etc.	'000	55,594	55,273	56,516	58,824	57,916
Newspapers, Books, etc.	'000	10,531	10,141	9,425	8,953	8,640
Parcels ..	'000	302	303	282	300	353
Registered Articles ..	'000	379	349	325	312	313
Money Orders—						
Issued—No. ..	'000	364	322	(b) 271	265	214
Value ..	\$'000	12,690	13,468	(b) 5,870	5,229	4,624
Paid—No. ..	'000	298	266	(b) 216	211	167
Value ..	\$'000	12,042	12,727	(b) 5,220	4,516	4,257
Postal Orders—						
Issued—No. ..	'000	344	350	378	428	496
Value ..	\$'000	467	599	731	871	1,295
Paid—No. ..	'000	208	201	212	223	276
Value ..	\$'000	268	351	448	512	784

(a) Number of separate articles handled.

(b) Prior to 1968-69 figures included Official Money Orders used in bringing to account Telephone Account Collections and War Service Homes Repayments. This practice was discontinued towards the end of 1967-68.

Telephone and Telegraph Services

The next table shows the usage of telephone and telegraph services in Tasmania:

Telecommunications

Particulars	Unit	1967-68	1968-69	1969-70	1970-71
Telephone—					
Automatic Service Subscribers ..	'000	57	60	66	72
Manual Service Subscribers ..	'000	10	10	8	6
Subscribers with Access to S.T.D. ..	'000	39	43	52	60
Automatic Exchanges ..	no.	148	153	161	167
Manual Exchanges ..	no.	164	135	112	90
Value of Calls Made—					
Metered (Local and S.T.D.) ..	\$'000	5,441	3,643	4,667	5,621
Trunk ..	\$'000		2,511	2,497	2,503
Public Telephone (Local and Trunk)	\$'000		418	448	465
Telegraph—					
Phonograms Lodged ..	'000	340	311	295	269
All Telegrams Lodged (a) ..	'000	596	582	566	534

(a) Includes telegrams lodged by telephone (i.e. phonograms).

Telephones: The following table further analyses the telephone services in Tasmania, showing the dissection between *business* and *residential*:

Telephone Services at 30 June: Operating Services
(^{'000})

Particulars	1967	1968	1969	1970	1971
Services in Operation—					
Business	32.4	32.4	33.3	35.8	36.5
Residential	31.3	33.4	35.6	37.8	41.3
Public Telephones ..	1.1	1.2	1.1	1.1	1.1
Instruments in Operation ..	88.9	93.0	98.3	104.8	114.4

RADIO COMMUNICATION

Stations in Tasmania

The section which follows relates to radiocommunication (radio telegraph and radio telephone) stations only; particulars of broadcasting stations and of broadcast listeners' licences are specifically excluded and are dealt with in a subsequent section.

The following table shows the number of radiocommunication stations and their categories over a number of years:

Number of Authorised Radiocommunication Stations at 30 June
(Two-way Services)

Particulars	1967	1968	1969	1970	1971
Fixed Stations (a)—					
Aeronautical	8	8	8	8	7
Outpost (b)	19	19	17	16	17
Other	62	57	61	89	108
Total	89	84	86	113	132
Land Stations (c)—					
Aeronautical	7	7	7	8	8
Base Stations for—					
Land Mobile Services	303	319	350	401	453
Harbour Mobile Services	13	13	14	16	13
Coast (d)	22	24	29	29	27
Special Experimental	17	17	17	17	16
Total	362	380	417	471	517
Mobile Stations—					
Aeronautical	26	26	32	38	47
Land Mobile Services	2,385	2,588	2,985	3,489	3,867
Harbour Mobile Services	68	75	65	72	78
Outpost	67	66	71	60	58
Ships	370	415	483	507	569
Total	2,916	3,170	3,636	4,166	4,619
Amateur Stations	194	222	238	244	231
Grand Total	3,561	3,856	4,377	4,994	5,499

(a) For exchange of radio messages with other similar stations.

(b) Stations established in remote localities for communication with control stations, e.g. the lighthouse service.

(c) For exchange of radio messages with mobile stations.

(d) Land stations for communication with ocean-going vessels.

To operate a radio transmitter as previously described, it is necessary to obtain a licence from the Postmaster-General's Department which is responsible for frequency allocation and for certain inspectorial functions. In the previous table, the term 'authorised' refers to equipment licensed by this authority.

Some examples of the use to which this form of communication is put, include: (i) the police networks for intrastate signals and for link with police cars; (ii) coastal radio service to ships at sea (the same service provides links with outpost transmitters in the State's remote areas, e.g. Port Davey); (iii) army network with direct link to Melbourne; (iv) fire brigade network operating in the area controlled by each authority; (v) fishermen's network with base stations at Triabunna, Dunalley, Bicheno, St Helens, Lady Barron, Currie, Stanley and Strahan; (vi) lighthouse network (the source of weather reports at remote coastal stations); (vii) special purpose networks of various authorities, e.g. Hydro-Electric Commission, Forestry Commission, ambulance services, etc.; (viii) marine boards' V.H.F. networks (on single international frequency) for ship-to-shore link with overseas vessels; (ix) the the mutton birders' network—operating from Whitemark on Flinders Island when the birders, in the season, inhabit the otherwise deserted Bass Strait islands; (x) mine networks, e.g. central control linked to outposts engaged in blasting; and (xi) freighting services and taxi networks, etc.

RADIO AND TELEVISION BROADCASTING

General

In Australia radio and television services are provided both from commercial and Commonwealth Government transmitters; the *Federal Broadcasting and Television Act 1942-72* governs the operation of services designated to the National Broadcasting Service, the National Television Service, the Commercial Broadcasting Service and the Commercial Television Service.

The National Services

The national services (both radio and television) are provided by the Australian Broadcasting Commission which has sole responsibility for programme material; the actual transmitters are operated by the Postmaster-General's Department. Owners of radio and television receivers are required to pay annual licence fees to the Postmaster-General's Department, and this revenue is used to help pay the cost of operating the national services.

The Commercial Services

The commercial services (both radio and television) are operated under licences granted by the Postmaster-General, who, in exercising his licensing powers, takes into consideration recommendations made by the Australian Broadcasting Control Board. The revenue of the commercial services is obtained from advertising. Licence fees, payable to the Australian Broadcasting Control Board, are charged on a sliding scale from one per cent to four per cent of gross advertising revenue.

The Australian Broadcasting Control Board

Although the commercial services are operated as private enterprise undertakings, the Board exercises control in certain fields, by prescribing programme standards, laying down rules for advertising time and advertising content, determining hours of operation, and by establishing and supervising operational standards. The Board allocates frequencies for transmission and investigates applications for the establishment of stations. In all these functions, it works under the ministerial jurisdiction of the Postmaster-General.

Hours of Transmission

At 30 June 1972, eight commercial radio stations were operating in Tasmania; two in the Hobart area each averaging 140 hours weekly; six elsewhere in the State averaging 120 hours weekly. The corresponding figures for the two commercial television stations were 76 hours weekly in the Hobart area, and 70 hours in the Launceston area.

Programme Standards—Commercial Stations

Broadcasting Standards

Licensees are required to provide programmes in accordance with standards determined by the Australian Broadcasting Control Board. These standards contain requirements for the acceptability of programme material and advertising. There are special provisions dealing with family and children's programmes designed to ensure that all programmes broadcast at times when large numbers of children and young persons are likely to be listening will be suitable for this category of listener. Special provisions relate to the duration and suitability of advertisements: with regard to their duration the standards require for example, that advertisements in a sponsored programme should not exceed 20 per cent of the programme time and that in the case of programmes during which spot advertisements are broadcast, advertisements should not exceed 30 per cent of programme time. Not more than 18 minutes of spot advertising may be included in any period of 60 minutes.

Also under the *Broadcasting and Television Act* 1942-72, licensees are required to broadcast religious services, or other matter of a religious nature during such periods as the Board determines. The minimum time set by the Board is one hour per week but many stations are providing, free of charge, considerably more time than required for religious broadcasts. The Act also provides that licensees shall, as far as possible, use the services of Australians in the production and presentation of programmes, and that not less than five per cent of the time occupied by the programmes of stations in the broadcasting of music shall be devoted to works of Australian composers.

Television Standards and Australian Content

The Board has prescribed programme standards for commercial television, and these, as in the case of broadcasting, contain requirements for the acceptability of programme material and advertising. The standards contain special provisions designed to protect the interests of children and young persons with respect to televising of material prior to 7.30 p.m. on any day during periods when there are likely to be large numbers of this category of the population viewing. The advertising standards relate to the suitability, number, content and duration of advertisements: with regard to their duration, the standards make the distinction between prime time (7.00 p.m. to 10.00 p.m.) and non-prime time. Broadly, advertisements should not occupy more than 11 minutes in each clock hour in prime time and not more than 13 minutes in each clock hour in non-prime time.

Section 114 of the *Broadcasting and Television Act* provides that licensees of commercial television stations shall, as far as possible, employ the services of Australians in the production and presentation of programmes. Special requirements have been applied on a rising scale, since 1960, to provide that a specified proportion of programmes will be of Australian origin, particularly those televised in popular viewing times. The requirements at present provide for stations which have completed three years of operation to televise for not less than 50 per cent of total transmission time, programmes credited as being Australian in origin and to present Australian programmes between the hours of 7.00 p.m. and 9.30 p.m. for at least 18 hours per four-week period. Of these 18 hours not less than two must be in the form of Australian drama and at least two hours of Australian programmes must be televised between 7.00 p.m. and 9.00 p.m. each week.

New requirements came into force on 20 September 1971 and the main features of the new rules are that the overall requirement of 50 per cent has been retained but credit loadings for British Commonwealth programmes and repeats of Australian drama have been discontinued; four hours monthly of programmes for children of school age (as distinct from pre-school children) are to be provided at times when school children are able to watch; at least six hours of first-run indigenous drama are to be televised each month between 6.00 p.m. and 10.00 p.m.; and from 26 June 1972, 50 per cent of programmes televised between 6.00 p.m. and 10.00 p.m. are to be Australian.

Category of Television Programmes

The following table shows, as varying proportions of transmission time, the types of programme televised in the Hobart area. The figures are based on a 25 per cent sampling of programmes.

Category of Television Programmes: Hobart 1971-72
Proportion of Transmission Time
 (Source: Australian Broadcasting Control Board)

Programme Category	Commercial Programmes	National Programmes
	per cent	per cent
Drama	49.7	24.2
Light Entertainment	18.6	8.9
Sport	9.2	11.6
News	7.2	7.4
Children	8.6	19.3
Family Activities	2.9	0.9
Information	1.6	5.6
Current Affairs	0.6	6.7
Religious Matter	1.4	1.4
The Arts .. .. .	..	0.8
Education	0.2	13.2
Total	100.0	100.0

Film Classification

Films imported for televising are classified as suitable for unrestricted viewing (G), not suitable for children (A) and suitable for adults only (AO). Classifications for (A) and (AO) films are advertised before showing.

Television Stations in Operation

The next table gives details of the television stations in operation:

Television Stations in Operation, 30 June 1972

Call Sign and Channel	Area	Transmitter Location	Height Above Sea Level—Top of Aerial (Ft)	Hours of Service (Weekly)
NATIONAL				
ABT 2	Hobart	Mt Wellington	4,410	89.15
ABNT 3 (a)	NE. Tasmania	Mt Barrow	4,780	89.15
ABKT 2 (a)	King Island	Gentle Annie Hill	804	89.15
COMMERCIAL				
TVT 6	Hobart	Mt Wellington	4,340	76.00
TNT 9	NE. Tasmania	Mt Barrow	4,654	70.00

a) Transmits programmes originating from ABT2.

Relay of Television Programmes from Other States

Tasmania is linked with Victoria by a broadband radio link installed by the Postmaster-General's Department which enables the direct relay of television programmes from the mainland States.

Microwave Links and Intrastate Relays

The prime sources of programmes in Hobart are the commercial and national studios which are linked to their Mt Wellington transmitters (TVT6 and ABT2) by micro-wave links; the commercial studio in Launceston feeds programmes to its Mt Barrow transmitter (TNT9) by the same method. As there is no national studio at Launceston, the transmitter on Mt Barrow (ABNT3) relays the Hobart national programmes through the broadband radio link. This service is also available to commercial stations.

Television Translator Stations

Tasmania, due to its terrain, has areas where television reception direct from the Mt Wellington or Mt Barrow transmitters is either difficult or impossible. To provide good reception in such areas, translator stations, which are low-powered stations receiving signals from a parent station and re-transmitting on another channel to areas with poor reception, have been installed as follows:

Television Translator Stations in Operation at 30 June 1972

Area Served	Parent Station		Local Channel	
	National	Commercial	National	Commercial
Queenstown-Zeehan	ABT2	TVT6	4	8
Rosebery-Renison Bell	ABT2	TVT6	1	10
Taroona .. ..	..	TVT6	..	8
Swansea-Bicheno .. ..	..	TVT6	..	8
Smithton-Stanley	ABNT3	TNT9	1	6
Gowrie Park	ABNT3	TNT9	11	1
South Launceston	ABNT3	TNT9	1	11
St Marys-Fingal Valley	ABNT3	TNT9	1	11
Maydena .. ..	..	TVT6	..	8
Waratah	ABNT3	TNT9	2	10
Savage River-Luina	ABNT3	TNT9	4	7
Strahan	ABT2	..	10	..
Strathgordon	ABT2	TVT6	5	8
Derby .. ..	..	TNT9	..	11

De-icing

In view of the temperature and weather conditions existing at Mt Wellington and Mt Barrow, precautions have been necessary to prevent the formation of ice on the aerial elements and the resultant danger of damage from falling ice.

In the case of the aerial at the Hobart national station (ABT2, Mt Wellington), the aerial elements are heated by mains power which is switched on automatically by means of a thermostat when the temperature falls below freezing point. In the case of the Hobart commercial station (TVT6, Mt Wellington), the junctions between the coaxial feeder lines and the aerial elements are protected by small plastic covers. In the case of the Launceston (Mt Barrow) commercial station TNT9 and national station ABNT3, the whole of the aerials are covered by a plastic cylinder. The lower part of the ABNT3 mast is metal-sheathed for 190 feet to ward off ice which falls from the plastic cylinder and which could damage the mast.

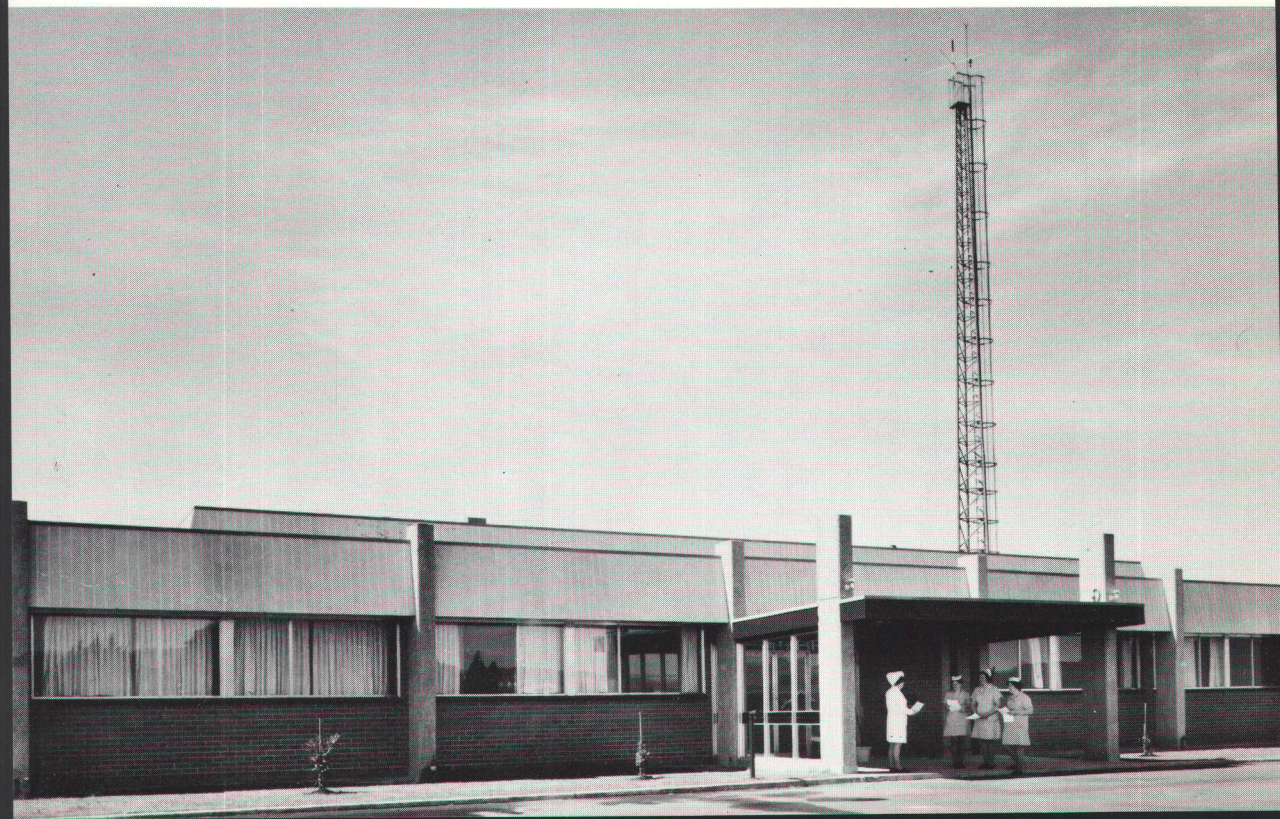


Northern Regional Library (Launceston)

[Dept of Film Production]

New Scottsdale hospital

[Dept of Film Production]





Entrance to Theatre Royal (Hobart)

Radio Stations In Operation

The following table gives details of the radio stations in operation:

Radio Stations in Operation at 30 June 1972

Call Sign	Classification	Location	Hours of Service (Weekly)
7ZL	National	Hobart	125.45
7ZR	National	Hobart	126.00
7NT (a)	National	Launceston	126.00
7QN (a)	National	Queenstown	126.00
7HO	Commercial	Hobart	140.00
7HT	Commercial	Hobart	140.00
7AD	Commercial	Devonport	116.30
7BU	Commercial	Burnie	113.30
7EX	Commercial	Launceston	163.00
7LA	Commercial	Launceston	127.30
7QT	Commercial	Queenstown	98.30
7SD	Commercial	Scottsdale	100.30

(a) Transmits, in the main, programmes originating from 7ZL and 7ZR.

Although there are areas of poor reception due to difficult terrain, most of Tasmania receives a satisfactory radio service from one or more of the above stations. In addition, the northern part of the State receives a service from some mainland stations.

The structure and population distribution in the State has given rise to a regional pattern of radio stations with concentrations in Hobart and Launceston and outlying stations in the north-east, north-west and west.

Listening and Viewing Licences

Revenue from Licences

The revenue from licences in force in Tasmania for the past decade is shown in the following table. From 1 April 1965 three types of licences: listeners'; viewers'; and combined were issued. The revenue from each type of licence is not available separately after 1963-64.

Broadcast and Television Licences: Revenue (\$'000)

Year	Type of Licence (a)		Total Revenue
	Listeners'	Viewers'	
1961-62	370	276	645
1962-63	358	426	784
1963-64	356	510	865
1964-65	1,005		1,005
1965-66	1,047		1,047
1966-67	1,127		1,127
1967-68	1,157		1,157
1968-69	1,314		1,314
1969-70	1,397		1,397
1970-71	1,429		1,429

(a) From 1964-65 no breakup is available.

Details of Rates

In general, all persons owning a radio or television set (or both) are required to pay an annual licence fee. Definitions used in the table follow.

Pensioner Rates: Concession rates apply to certain classes of pensioners and licences may be granted free of charge to blind persons over 16 years of age. The rates applicable are: Broadcast Receiver, \$1.00; Television Receiver, \$3.00; Combined, \$4.00.

Hirers' Licence: Each broadcast or television receiver let out on hire, except those under hire purchase contracts, must be covered by a hirer's licence held by the person or firm from whom the receiver is hired. Rates: Broadcast Receiver, \$8.00 (Pensioner rate \$1.00); Television Receiver, \$19.00 (Pensioners \$3.00); Combined, \$26.50.

Lodging House Licence: Owners of hotels, motels, guest houses, furnished premises, etc. are required to hold a licence for every broadcast or television receiver provided for the use of guests, lodgers and tenants. Rates: Broadcast Receiver, \$8.00; Television Receiver, \$19.00.

Licences in Force:

The following table shows the number of listeners' and viewers' licences in force in Tasmania from 1925:

Licences in Force (a): Listeners' and Viewers' Licences from 1925

At 30 June	Broadcast Listeners'	Television Viewers'	Combined (a)
1925	567	..	..
1930	6,048	..	..
1940	42,191	..	..
1950	64,369	..	..
1960	78,900	4,662	..
1965	62,943	47,173	12,906
1966	32,317	10,309	55,778
1967	21,917	10,708	60,405
1968	14,179	11,532	63,049
1969	12,232	11,896	66,320
1970	10,074	12,317	68,439
1971	8,883	12,752	70,534
1972	7,483	12,996	69,613

(a) The combined receiving licence was introduced in April 1965, to be held by those persons owning both a radio and a television receiver at the same address. Separate licences are still available for persons owning only one type of receiver.

Licences and Receivers

The number of receivers in use, both for radio and television exceeds the number of licences, since one licence covers any number of receivers operated by the householder or members of his family at the address shown on the licence. (This concession does not apply to lodging houses.)

Although television transmission did not begin in Tasmania before the first half of 1960 (with ABT2 and TVT6 in Hobart), a few licences were held in the northern areas of the State as early as 1957; the owners of these receivers were able to tune to programmes originating in Victoria.

Zones

The rates for broadcast listeners' licences quoted in a previous table are those applicable to Zone 1 which includes areas within 250 miles of specified broadcasting stations. Zone 2 is defined as the remainder of Australia and persons living in this zone can obtain broadcast listeners' licences at a reduced rate. All Tasmanian live in Zone 1.

Chapter 12

PRIVATE FINANCE

BANKING AND EXCHANGE RATES

Types of Banks

General

Banks in Tasmania can be classified by ownership as follows: (i) Government—The Reserve Bank of Australia, the Commonwealth Development Bank of Australia, the Commonwealth Trading Bank of Australia and the Commonwealth Savings Bank; (ii) Private—the private trading banks and the private savings banks; and (iii) Trustee—The Savings Bank of Tasmania (previously the Hobart Savings Bank) and the Launceston Bank for Savings. The Agricultural Bank is *not* a bank for the purpose of these statistics.

For statistical purposes such a classification is not helpful since banks, both government and private, may be engaged in the same type of activity. Hence, the classification in actual use is one which groups banks according to their type of activity, not according to their ownership. The major banking statistics for the State are presented in two distinct series under the headings 'Trading Banks' and 'Savings Banks'.

Trading Banks

The following seven institutions in Tasmania are classified, for statistical purposes, as 'trading banks': Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; Bank of New South Wales; Commercial Bank of Australia Ltd; Commercial Banking Company of Sydney Ltd; National Bank of Australasia Ltd; and the Bank of Adelaide.

Savings Banks

In the 1950s, only three savings banks operated branches in Tasmania: Hobart Savings Bank (now the Savings Bank of Tasmania), Launceston Bank for Savings (both trustee savings banks) and the Commonwealth Savings Bank. The trustee savings banks date from early colonial days, the one at Launceston opening in 1835, and at Hobart in 1845. In recent years, private trading banks have opened savings bank subsidiaries in the State, the relevant dates being A.N.Z., September 1959; Bank of N.S.W., September 1961; E. S. & A., October 1961; National, May 1962; Commercial (of Australia), July 1962; Commercial (of Sydney), March 1963; and Bank of Adelaide Savings Bank Ltd, November 1970. All banks which previously operated as trading banks now provide savings bank facilities.

Following the 1969 merger of the E. S. & A. and A.N.Z. banks and the establishment of the Bank of Adelaide in 1970 there are nine separate enterprises operating savings bank business within the State. Savings banks also offer cheque facilities to customers, however, for statistical purposes their cheque operations are included in 'savings banks statistics'.

Banking Legislation

Under Section 51 of the Commonwealth Constitution, the Commonwealth Parliament has power to legislate with respect to 'banking, other than State banking; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. The principal Commonwealth Acts at present in force relating to banking are:

The Reserve Bank Act 1959-1967

Provision for the constitution and management of the Reserve Bank of Australia and the management of the Australian note issue is covered by this Act. (Central banking functions had previously been vested in the Commonwealth Bank of Australia.)

The Banking Act 1959-1967

Objectives of the Act are: (i) to provide a uniform legal framework throughout Australia for regulating the banking system; (ii) to safeguard depositors of the banks from loss; (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank; (iv) to control the volume of credit in circulation and bank interest rates; and (v) to mobilise and to provide machinery for the control of foreign exchange and the gold resources of the Australian economy.

The Commonwealth Banks Act 1959-1968

This Act created the Commonwealth Banking Corporation as the controlling body for the newly-constituted Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia and Commonwealth Development Bank of Australia. The Corporation and its constituent banks are subject to the same banking controls as are the private trading banks. (The Commonwealth Bank, established in 1911, had performed a number of diverse roles, e.g. as a trading bank, a savings bank and a central bank. The effect of the new legislation was to isolate the individual functions and to constitute a separate establishment for each.)

Transactions of Trading Banks

The accompanying table summarises the principal statistics relating to all trading banks in Tasmania for a five-year period. The following definitions apply:

- (i) Deposits—a bank liabilities item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (ii) Loans, Advances and Bills Discounted, etc.—a bank assets item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (iii) Debits to Customers' Accounts—mainly the total of all cheques drawn by customers during a given period. The figure is the average, for the year, of such weekly entries.

**Transactions: All Trading Banks
(Including Commonwealth Trading Bank)**

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
NUMBER					
Branches Open (a)	101	105	105	107	107
WEEKLY AVERAGES (\$'000)					
Deposits—					
Commonwealth and State Governments	1,719	1,953	2,502	1,685	6,465
Other—					
Fixed	39,427	42,096	46,585	51,444	50,525
Current—Bearing Interest	6,977	7,788	8,018	8,094	6,816
Not Bearing Interest	63,969	65,975	67,369	70,277	69,782
Total	112,091	117,811	124,473	131,501	133,587
Loans, Advances and Bills Discounted (b)	60,460	69,297	72,394	77,603	86,976
Debits to Customers' Accounts (c) ..	147,253	151,295	155,896	161,173	164,177

(a) At end of year.

(b) Excludes loans to authorised dealers in the short-term money market.

(c) Excludes debits to Australian Government account at Hobart branches. In addition to trading bank transactions, those of the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank are included in this item.

The next table gives a classification of trading bank advances outstanding within Tasmania by type of borrower resident in Australia:

Trading Banks: Classification of Advances Outstanding Within Tasmania to Borrowers Resident Within Australia
('\$000)

Type of Advance	At Second Wednesday in July		
	1969	1970	1971
BUSINESS ADVANCES BY MAIN INDUSTRY OF BORROWER			
Agriculture, Grazing and Dairying—			
Mainly—Sheep Grazing	8,186	7,982	8,335
Wheat Growing .. .. .	..	3	41
Dairying and Pig Raising	5,166	4,892	4,580
Other	8,219	7,851	8,169
Total	21,571	20,728	21,125
Manufacturing	9,818	19,966	20,851
Transport, Storage and Communication	1,717	1,517	1,754
Finance—			
Building and Housing Societies	520	1,386	250
Pastoral and Finance Companies	2,267	2,839	1,864
Hire Purchase and Other Finance Companies	670	642	470
Other	561	620	726
Total	4,018	5,487	3,310
Retail and Wholesale Trade	14,531	14,118	15,006
Building and Construction	2,344	2,226	2,414
Other Business	6,163	8,243	9,754
Unclassified	358	570	504
Total Business Advances	60,520	72,855	74,718
ADVANCES TO PUBLIC AUTHORITIES			
Public Authorities (excl. Commonwealth and State Governments)	156	382	315
PERSONAL ADVANCES BY PURPOSE OF ADVANCE			
Building or Purchasing Own Home (Individuals)	4,564	4,520	4,424
All Other	7,994	8,904	8,243
Total Personal Advances	12,558	13,424	12,667
ADVANCES TO NON-PROFIT ORGANISATIONS			
Non-Profit Organisations	954	1,052	1,022
TOTAL ADVANCES TO RESIDENT BORROWERS			
Total Advances to Resident Borrowers	74,188	87,713	88,722

Interest Rates and Security Yields

The next table shows the interest rates available on fixed deposits, the interest yield from treasury notes and the yield from government securities:

Interest Rates and Security Yields
(Per Cent Per Annum)

Particulars	Rate		
	June 1970	June 1971	June 1972
Trading Banks (maximum rate)—			
Fixed Deposits (less than \$50,000)—			
3 months and less than 12 months	4.80	5.00	4.30
12 months and less than 18 months	5.00	5.00	..
18 months to 24 months	5.30	5.30	..
12 months and less than 2 years .. ..	..	..	4.50
Over 24 months and less than 3 years .. ..	..	5.60	..
2 years and less than 4 years .. ..	..	..	5.00
3 years and less than 4 years .. ..	..	6.00	..
4 years .. ..	..	6.50	5.50
Fixed Deposits (\$50,000 and Over)—			
30 days to 24 months	5.50	5.50	..
30 days to 4 years .. ..	..	..	(a) 6.50
Over 24 months and less than 4 years .. ..	..	6.00	..
4 years .. ..	..	6.50	..
Commonwealth Government Securities Yield—			
Non-rebatale Bonds—2 years	r 6.48	r 6.30	5.05
10 years	r 6.86	r 6.83	5.85
20 years	r 6.99	r 6.99	5.99
Treasury Notes (Issue Yield)—			
13 Week Notes	r 5.41	r 5.37	4.50
26 Week Notes	r 5.48	r 5.57	4.66

(a) Actual rates are a matter for negotiation between the bank and customer.

Savings Banks

Transactions

The following table summarises the principal statistics relating to savings banks in Tasmania. Deposits are compiled on a basis different from that used in the case of trading banks. 'Deposits lodged' is the total inflow of deposits during the year, and 'depositors' balances' is a single liability reading taken at the end of the year.

Transactions: All Savings Banks

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Branches Open (a)	no. 148	no. 151	no. 151	no. 152	no. 153
Operative Accounts	413,413	432,112	452,280	465,888	485,629
Deposits Lodged	\$'000 189,026	\$'000 203,850	\$'000 217,531	\$'000 244,416	\$'000 285,190
Interest Added	5,300	5,857	6,529	7,087	7,625
Excess of Deposits over Withdrawals	13,405	4,864	5,687	2,660	10,247
Depositors' Balances (a)	167,106	177,827	190,043	199,790	217,663
Per Head of Population—	\$	\$	\$	\$	\$
Depositors' Balances (a)	r 448	r 471	r 497	r 517	559

(a) At end of year.

The next table gives details of housing finance transactions by savings banks in Tasmania. Figures for this activity are not available prior to 1969-70.

Savings Banks: Housing Finance Transactions

Period	Loans Approved to Individuals For—					Total All Loans Approved	Loans Cancelled (a)	
	Dwellings not Previously Occupied		Dwellings Previously Occupied		Alterations and Additions			
	Number (b)	Amount	Number (b)	Amount	Amount	Amount	Number	Amount
		\$'000		\$'000	\$'000	\$'000		\$'000
1969-70 ..	444	3,357	865	5,542	289	9,188	78	524
1970-71 ..	578	4,853	1,281	8,989	242	14,085	113	1,151
1971-72 ..	630	5,718	1,580	12,171	409	18,298	125	999
1971-72—								
January ..	35	299	107	791	21	1,111	4	34
February ..	40	343	118	947	52	1,342	14	115
March ..	58	550	144	1,164	36	1,750	12	101
April ..	47	444	108	797	26	1,267	10	78
May ..	68	622	119	959	28	1,609	17	129
June ..	59	561	108	820	26	1,407	9	65

(a) Includes amounts cancelled as a result of periodic examination of undrawn commitments.

(b) Includes details of number of loans for dwelling units approved for first mortgage finance only. Second mortgage finance is included under 'Amount'.

At 30 June 1972, the balances outstanding on housing loans made by savings banks to individuals and to building societies were \$59,782,000 and \$2,172,000 respectively.

Savings Banks Interest Rates

The next table shows the maximum rates of interest received by depositors or charged to borrowers with home mortgages:

The Savings Bank of Tasmania (a): Maximum Interest Rates (b)
(Per Cent Per Annum)

Date of Change In Rate	On Savings Accounts (c)	On Home Mortgages	Date of Change In Rate	On Savings Accounts (c)	On Home Mortgages
August 1962 .. ..	..	6.00	June 1966 .. ..	..	6.00
April 1963	3.25	..	August 1968	4.00	6.25
May 1963 .. ..	..	5.50	May 1970	4.25	7.00
June 1964	3.50	..	May 1971	5.00	7.00
April 1965	3.75	5.75	June 1972	(d) 4.50	7.00

(a) Prior to 28 October 1971 the Hobart Savings Bank.

(b) Operative from first day in month shown.

(c) Interest on fixed deposits is as for trading banks.

(d) Effective on accounts to \$4,000. From \$4,001 to \$20,000 the interest rate is 5.00%.

Overseas Exchange Rates

The next table shows average overseas exchange rates operative for recent periods:

Exchange Rates (a): Average for Period Shown, Overseas Currency to Australian Dollars

Country	Unit of Overseas Currency	1968-69	1969-70	1970-71	May 1972
New Zealand (b)	Dollars	0.998	0.998	0.998	0.998
United Kingdom (b)	Pound Stg	0.465	0.465	0.465	0.455
Belgium (c)	Francs	55.39	55.22	55.11	51.96
Canada	Dollars	1.19	1.19	1.13	1.17
Ceylon	Rupees	6.57	6.59	6.59	7.05
China, Mainland (d)	New Yuan	2.72	2.72	2.72	2.69
France (c)	Francs	5.49	6.08	6.13	5.79
Germany, West.. ..	Deutsche Marks	4.40	4.16	4.02	3.76
Hong Kong	Dollars	6.76	6.74	6.74	6.55
India	Rupees	8.33	8.33	8.33	8.47
Italy	Lire	689.00	696.00	694.00	688.00
Japan	Yen	396.55	396.96	397.36	358.49
Malaysia	Dollars	3.38	3.40	3.41	3.32
Netherlands	Guilders	40.1	4.02	3.99	3.80
Pakistan	Rupees	5.28	5.28	5.29	n.a.
Singapore	Dollars	3.38	3.40	3.41	3.32
South Africa	Rands	0.795	0.795	0.795	0.88
Switzerland	Francs	4.77	4.78	4.76	4.56
U.S.A.	Dollars	1.11	1.11	1.12	1.19
U.S.S.R. (d)	Roubles	1.004	1.004	1.006	0.977

(a) Average telegraphic transfer selling rates at Sydney.

(b) Usual basis of quotation: (i) \$A to \$N.Z. 1; (ii) \$A to £1 Stg. Value quoted is an inversion.

(c) Two rates became operative from September 1971; the rate shown is the financial rate used for trade transactions.

(d) Rates of exchange used in converting import values to Australian currency for purposes of calculating customs duty.

INSURANCE

General

Definitions

The following data on insurance are divided into life insurance and insurance other than life, i.e. fire, marine and general insurance. No distinction is made between insurance and assurance, the former term being used in all contexts.

Legislation

Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance other than State insurance; also State insurance extending beyond the limits of the State concerned'. The principal Commonwealth legislation affecting current insurance business is as follows:

Insurance Act 1932-1966: Insurance businesses are required to lodge a deposit with the Commonwealth Treasurer, interest on the invested deposit being paid to the depositor. Deposits remain as a security against liability to policy holders and are available to satisfy judgments obtained in respect of policies. The following insurance business is exempted from these provisions: staff superannuation schemes; schemes of religious organisations solely for insurance of their property; friendly society, union and association schemes involving superannuation or insurance benefits to employees. Deposits with a State made prior to the legislation could remain with the State and reduce the amount needed for deposit with the Commonwealth. The passing of the *Life Insurance Act 1945-1965* had the effect of adding life insurance business to the list of activities exempted from the provisions of the *Insurance Act 1932-1966*.

Life Insurance Act 1945-1965: Objectives are: (i) to replace all State legislation on the subject of life insurance, except that relating to operations of a State insurance office within a specific State, and to provide uniform legislation for the whole of Australia; (ii) to appoint an Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection of policy holders; and (iii) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

Life Insurance

Since 1947 returns lodged under the *Life Insurance Act 1945-1965* have been used to compile life insurance statistics. In Tasmania, the Government Insurance Office does not transact life insurance business so the tables that follow refer to the operations of enterprises exclusively in the private sector. The transactions in the next table are concerned with Tasmania as the State of issue of the policies, not necessarily as the State of risk.

Life Insurance Transactions (Excluding Annuities)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
ORDINARY BUSINESS					
New Policies Issued—					
Number	14,024	14,974	15,597	17,052	17,952
Sum Insured \$'000	62,517	76,251	83,946	93,895	107,365
Annual Premiums \$'000	1,408	1,749	1,927	2,201	2,430
Policies Discontinued or Reduced—					
Number	9,059	9,409	9,584	11,145	11,354
Sum Insured \$'000	23,624	27,722	31,094	38,521	42,271
Annual Premiums \$'000	587	622	693	918	999
INDUSTRIAL BUSINESS (a)					
New Policies Issued—					
Number	3,418	3,190	3,090	3,536	3,642
Sum Insured \$'000	3,570	3,212	3,524	3,955	4,730
Annual Premiums \$'000	139	126	133	153	167
Policies Discontinued or Reduced—					
Number	5,659	4,662	4,448	4,423	4,295
Sum Insured \$'000	2,063	2,199	2,470	2,688	2,502
Annual Premiums \$'000	89	92	104	110	99
SUPERANNUATION BUSINESS					
New Policies Issued—					
Number	2,857	2,542	2,300	1,848	1,925
Sum Insured \$'000	19,446	28,599	24,714	26,726	35,400
Annual Premiums \$'000	636	909	727	813	1,069
Policies Discontinued or Reduced—					
Number	2,671	2,371	3,883	2,226	2,105
Sum Insured \$'000	11,188	10,778	14,738	14,496	18,131
Annual Premiums \$'000	317	332	455	412	562
TOTAL BUSINESS					
New Policies Issued—					
Number	20,299	20,706	20,987	22,436	23,519
Sum Insured \$'000	85,533	108,062	112,183	124,576	147,494
Annual Premiums \$'000	2,182	2,784	2,787	3,167	3,666
Policies Discontinued or Reduced—					
Number	17,389	16,442	17,915	17,794	17,754
Sum Insured \$'000	36,875	40,699	48,302	55,705	62,904
Annual Premiums \$'000	993	1,046	1,253	1,441	1,659

Life Insurance Transactions (Excluding Annuities)—continued

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
NEW LOANS PAID OVER (EXCLUDING ADVANCES OF PREMIUMS)					
On Mortgage of Real Estate .. \$'000	2,455	2,732	4,886	4,737	3,345
On Companies' Policies \$'000	1,132	1,274	1,631	1,764	2,004
On Other Securities \$'000	408	13	15	33	60
Total \$'000	3,995	4,019	6,531	6,534	5,408

(a) Industrial business refers, in the main, to policies on which the premiums are collected as regular instalments by agents on commission.

Fire, Marine and General Insurance

Information for insurance, other than life, is compiled from returns provided by insurance companies transacting fire, marine and general insurance business in Tasmania (including the Tasmanian Government Insurance Office). Statistics that follow are for financial years of companies ending within the period shown.

Definitions

Premiums represent the full amount receivable in respect of policies issued and renewed in the year, less returns, rebates and bonuses paid or credited to policy-holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year. When business is increasing, as shown in the following statistics, premiums receivable are greater than 'earned premium income' appropriate to the year. The converse applies when business is declining.

Claims include payments made during the year *plus* estimated amount of outstanding claims at end of year *less* estimated amount of outstanding claims at beginning of year.

Contributions to fire brigades, commission and agents' charges, and expenses of management are those amounts actually paid during the year.

Taxation represents payments made during the year, including income tax, pay-roll tax, licence fees, stamp duty (where paid by the company), etc. Income tax paid during the year is based on the income of earlier years.

The following table should not be construed as a Profit and Loss Statement; selected revenue and expenditure items only have been used. In cases where the business is underwritten in one State and the risk situated in another, the business is included in the State of issue.

Fire, Marine and General Insurance
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Premiums (less Returns, Rebates and Bonuses)	15,879	17,413	19,380	20,813	23,248
Interest, Dividends, Rents	345	385	434	457	487
Total Revenue	16,225	17,799	19,814	21,270	23,735
Claims (less Amounts Recoverable) ..	16,158	16,890	10,865	12,285	13,214
Contributions to Fire Brigades	242	298	(a) 508	521	583
Commission and Agents' Charges ..	1,760	1,863	2,063	2,118	2,388
Expenses of Management	3,248	3,497	3,929	4,407	4,942
Taxation (b)	664	749	588	424	626
Total	22,071	23,297	17,953	19,757	21,753

(a) Contribution formula changed by law.

(b) Prior to 1968-69, stamp duty on insurance policies was paid by the issuing company. The decrease in taxation paid is due to companies requiring the policy holder to pay stamp duty.

Types of Insurance

The next table shows premiums and claims according to the class of insurance business transacted in 1970-71. ('Premiums' and 'Claims' have been compiled in accordance with the definitions introducing the section.)

Fire, Marine and General Insurance
Premiums and Claims for Each Type of Insurance, 1970-71
 (\$'000)

Class of Business	Premiums	Claims	Class of Business	Premiums	Claims
Fire	3,850	1,764	Public Risk, Third Party ..	466	135
Householders' Comprehensive ..	2,177	735	General Property	121	56
Sprinkler Leakage	14	..	Plate Glass	101	73
Loss of Profits	572	48	Boiler	74	10
Fruit Crop	28	24	Livestock	36	10
Marine	1,198	519	Burglary	275	151
Motor Vehicles	6,727	4,303	Guarantee	34	6
Motor Cycles	18	15	'Pluvius'	16	11
Compulsory Third Party (Road Accidents)	1,969	2,292	Aviation	66	56
Workers' Compensation	4,033	2,389	All Risks	164	80
Personal Accident	903	359	Television	2	..
Contractors' All Risks	44	29	Other (a)	359	148
			Total	23,248	13,214

(a) Includes 'Seamen's Compensation'.

Ratio of Claims to Gross Premiums: The following table shows the ratio of claims to premiums for the more important classes of business over a five-year period:

Fire, Marine and General Insurance
Ratio of Claims to Premiums (a)
 (Per Cent)

Class of Business	1966-67 (b)	1967-68 (b)	1968-69	1969-70	1970-71
Fire	191.9	194.6	30.7	46.0	45.8
Householders' Comprehensive	199.8	99.5	29.4	30.0	33.8
Loss of Profits	188.5	132.9	(c)	81.3	8.4
Marine	44.7	98.9	84.0	25.0	43.3
Motor Vehicles (excluding Motor Cycles)	68.1	69.3	68.9	67.1	64.0
Compulsory Third Party (Road Accidents)	98.8	102.4	108.8	109.2	116.4
Workers' Compensation	72.9	67.6	57.9	62.4	59.2
Personal Accident	38.0	49.9	50.2	41.0	39.8
Public Risk, Third Party	30.0	33.4	49.4	40.3	29.0
Plate Glass	55.5	61.9	68.2	64.5	72.3
Burglary	53.7	64.3	52.6	49.2	54.9
All Classes	101.5	97.0	56.1	59.0	56.8

(a) See beginning of section for definition of claims and premiums.

(b) The fire disaster of 7 February 1967 affected some ratios.

(c) No percentage because of negative claims figure (due to adjustments made to offset over-estimation of claims outstanding in previous years).

INSTALMENT CREDIT AND OTHER FINANCING

Finance Companies

'Finance companies' for the purpose of these statistics are *incorporated companies* engaged *mainly* in providing business and the general public with credit facilities of the following types: hire purchase and other instalment credit for retail sales; wholesale finance; other consumer and commercial loans; and factoring.

Companies engaged in activities additional to financing still come within the scope of these statistics provided that the major portion of their assets consists of financial assets arising from activities of the types listed above, and/or a major proportion of their income is derived from such assets. Companies are excluded if: (i) the major proportion of their balances outstanding consists of agreements written for the purpose of financing their own sales; or (ii) they are engaged mainly in financing, in any way, the operations of related companies.

Finance companies are not the sole operators providing instalment credit; there are also some *retail businesses* and *non-retail unincorporated businesses* doing the same. Accordingly this *Finance Companies* section is followed by another section devoted to *total* instalment credit statistics and covering all three types of businesses operating in this field.

Definitions

Instalment Credit for Retail Sales: This category covers all types of instalment credit schemes of finance companies which relate primarily to the financing of retail sales of goods. Instalment credit relates to repayment made by regular predetermined instalments and includes hire purchase, time payment, budget account and personal loan schemes. In these statistics the term 'retail sales' relates to sales principally to the final consumer of new and second-hand goods generally used for household and personal purposes (as in the Bureau's Censuses of Retail Establishments) and to the final purchaser for other purposes (e.g. plant and machinery and tractors). The amount financed in this category is classified according to the following types of commodities: (i) *motor vehicles, etc.*: motor cars and motor cycles, commercial vehicles, tractors, caravans, trailers, motor parts and accessories, etc. (new and used compiled separately); (ii) *plant and machinery*: farm machinery and implements, earth-moving equipment, aircraft, industrial plant and machinery, business machinery and equipment (including commercial refrigeration equipment), etc.; and (iii) *household and personal goods*: furniture, furnishings and floor coverings, domestic refrigerators, electrical goods, radios, television sets, musical instruments, bicycles, motor mowers, clothing, etc.

Wholesale Finance: This category relates mainly to the financing of motor vehicle dealers' stocks held under bailment or floor plan schemes but also includes finance in respect of other trading stock.

Other Consumer and Commercial Loans: This term covers: (i) personal loans other than instalment credit for retail sales; (ii) mortgage loans; and (iii) commercial loans, i.e. all loans and advances to businesses not included elsewhere in these statistics.

Factoring: This term is used by finance companies in various senses, but in these statistics, relates to loans on the security of 'trade' debts and purchases of 'trade' debts. ('Trade' debts are those owing to businesses for goods or services supplied to other businesses.)

Amount Financed: Amount financed is the actual amount of cash provided. It excludes interest, insurance, hiring and other charges, and initial deposits. For purchases of existing finance agreements and trade debts purchased, it represents the amount of cash paid to the seller.

Balances Outstanding: Balances outstanding are the amounts owing on all finance agreements as shown in the books of the companies at the end of the relevant period. Accounting practice, with respect to inclusion in balances outstanding and unmatured charges, interest and insurance, differs between finance companies and between types of finance agreements. Because of this, details of balances outstanding are given separately for those contracts including, and those excluding, such charges.

Collections and Other Liquidations: Collections are cash collections of capital repayments, hiring charges, interest and insurance. Other liquidations are any reductions in balances outstanding other than by cash collections; they include bad debts written off and rebates for early payments.

**Finance Companies: Collections and Other Liquidations, Balances Outstanding and Amount Financed
by Type of Agreement
(\$m)**

Year	Instalment Credit for Retail Sales	Wholesale Finance	Other Consumer and Commercial Loans		Total All Contracts
			Contracts Including Charges	Contracts Excluding Charges ^(a)	

COLLECTIONS AND OTHER LIQUIDATIONS OF BALANCES

1966-67	..	..	..	28.6	20.8	r 1.8	0.5	r 51.7
1967-68	..	..	..	30.0	23.9	r 1.7	r 0.8	r 56.5
1968-69	..	..	..	33.8	27.6	r 1.5	r 1.2	r 64.1
1969-70 ^r	..	..	..	36.9	29.0	1.7	1.4	69.0
1970-71	..	..	..	40.3	31.5	1.8	1.7	75.3

BALANCES OUTSTANDING AT END OF YEAR

1966-67	..	..	..	35.4	3.0	2.3	r 2.0	r 42.7
1967-68	..	..	..	39.9	r 4.4	r 2.1	r 2.2	r 48.5
1968-69	..	..	..	41.7	4.2	r 1.8	r 2.8	r 50.5
1969-70 ^r	..	..	..	45.7	4.4	1.9	4.2	56.2
1970-71	..	..	..	49.6	4.7	2.1	5.1	61.5

AMOUNT FINANCED

1966-67	..	..	..	22.6	21.4	r 2.1	r 46.1
1967-68	..	..	..	26.1	25.3	r 2.0	r 53.4
1968-69	..	..	..	27.1	27.4	r 2.6	r 57.0
1969-70 ^r	..	..	..	29.1	29.1	4.3	62.5
1970-71	..	..	..	32.3	31.0	3.8	67.2

(a) Includes factoring.

The value of capital goods (business equipment and plant) leased by finance companies, over a five-year period, is shown in the table below:

**Finance Companies: Business Equipment and Plant on Lease
(\$m)**

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Initial Capital Cost of Goods Leased during Period	2.1	2.6	2.5	3.4	5.1
Balances Outstanding (Capital Costs less Depreciation)	2.9	4.7	5.0	r 6.1	8.3

In the following table the amount financed in respect of instalment credit for retail sales agreements (a single item in previous tables) is further classified by type of commodity.

Finance Companies: Instalment Credit for Retail Sales
Amount Financed, Collections and Other Liquidations, and Balances Outstanding
(\$m)

Year	Amount Financed during Year					Collections and other Liquidations during Year			Balances Outstanding at End of Year
	Motor Vehicles, etc.		Plant and Machinery	Household and Personal Goods	Total	Cash Collections	Other Liquidations	Total	
	New	Used							
1966-67	7.9	10.3	2.1	2.3	22.6	27.7	0.9	28.6	35.4
1967-68	9.5	11.4	2.8	2.5	26.1	29.2	0.8	30.0	39.9
1968-69	9.4	11.8	3.4	2.5	27.1	32.9	0.9	33.8	41.7
1969-70	9.3	r 12.8	r 3.6	r 3.5	r 29.1	r 35.8	r 1.1	r 36.9	r 45.7
1970-71	10.4	15.0	3.4	3.5	32.3	38.3	2.0	40.3	49.6

Instalment Credit for Retail Sales in Tasmania

The collection of data on instalment credit transactions began as a series dealing simply with the hire purchase operations of non-retail finance businesses; it was then expanded to cover the hire purchase operations of retail businesses. The final stage was reached when a concept of instalment credit, considerably broader than just hire purchase, was introduced.

In the next table the *instalment credit for retail sales* transactions of finance companies are entered as part of those headed *non-retail finance businesses*; included under the same heading are the transactions of unincorporated businesses. The relation between the series in the previous section and this section can be established as follows: balances outstanding at 30 June 1971: (i) to *finance companies* \$49.6m; (ii) to *all non-retail finance businesses* \$50.9m; and (iii) to *all businesses*, including retail businesses, \$58.4m.

Definitions

The statistics cover operations of all types of instalment credit schemes which relate primarily to the financing of retail sales of goods, whether the credit is advanced by a retail business or by a non-retail finance business. In general, the term 'instalment credit' is defined as relating to schemes in which repayment is made by regular predetermined instalments. Types of schemes covered include hire purchase, time payment, budget account, and personal loan schemes which relate primarily to financing of retail sales of goods. The term 'retail sales' relates not only to retail sales covered by the Censuses of Retail Establishments, but also includes other sales of goods to final purchasers (e.g. plant and machinery).

Figures for amounts financed *exclude* interest, hiring charges, insurance, etc. Figures for balances outstanding and collections *include* interest, hiring charges, insurance, etc. Details are not available of these charges or of other items (e.g. rebates allowed for early payment, late payment charges, bad debts written off) which affect the reconciliation of the three main instalment credit series: amount financed, collections and balances outstanding.

Statistics of amount financed are classified by type of goods, defined as follows: (i) *motor vehicles, etc.*—motor cars and motor cycles, commercial vehicles, tractors, caravans, trailers, motor parts and accessories, etc.; (ii) *plant and machinery*—farm machinery and implements, earth-moving equipment, aircraft, industrial plant and machinery, business machinery and equipment, etc.; and (iii) *household and personal goods*—furniture, furnishings and floor coverings, domestic refrigerators, electrical goods, radios, televisions, musical instruments, bicycles, motor mowers, clothing, etc. The next table shows Tasmanian operations on an annual basis; monthly and quarterly series are also published.

Instalment Credit for Retail Sales (a)
(Hire Purchase and Other Instalment Credit)
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
FINANCED BY RETAIL BUSINESSES					
Amount Financed During Period (b)—					
Motor Vehicles, etc. (c)	422	430	821	912	1,210
Plant and Machinery	4,776	4,859	5,442	5,698	5,896
Household and Personal Goods ..					
Total All Goods	5,198	5,289	6,263	6,610	7,106
Balances Outstanding at End of Period (d)	7,050	6,457	6,825	7,313	7,546
FINANCED BY NON-RETAIL FINANCE BUSINESSES					
Amount Financed During Period (b)—					
Motor Vehicles, etc. (c)	19,025	21,909	21,960	22,831	25,538
Plant and Machinery	2,604	3,117	3,917	3,969	3,879
Household and Personal Goods ..	3,780	4,082	4,392	4,144	3,955
Total All Goods	25,409	29,108	30,269	30,944	33,375
Balances Outstanding at End of Period (d)	38,777	43,141	45,255	47,423	50,867
FINANCED BY ALL BUSINESSES					
Amount Financed During Period (b)—					
Motor Vehicles, etc. (c)—New ..	8,718	10,629	10,358	10,548	11,419
Used ..	10,729	11,710	12,423	13,195	15,329
Total Vehicles	19,447	22,339	22,781	23,743	26,748
Plant and Machinery	11,160	12,058	13,751	13,811	13,730
Household and Personal Goods ..					
Total All Goods	30,607	34,397	36,532	37,554	40,481
Balances Outstanding at End of Period (d)	45,827	49,598	52,080	54,736	58,413

(a) Includes time payment, budget account, and personal loan schemes relating primarily to the financing of retail sales.

(b) Excludes hiring charges, interest and insurance.

(c) Types of goods included are defined under 'Definitions' preceding the table.

(d) Includes hiring charges, interest and insurance.

OTHER PRIVATE FINANCE

Friendly Societies

Scope

The details that follow refer to 'ordinary' societies, not to 'special' societies. Ordinary societies are those which provide customary sick and funeral benefits and are subject to actuarial valuation. Special societies restrict their membership to employees of industrial parent organisations and are not subject to actuarial valuation.

Friendly Health Services (F.H.S.): This organisation was originally established to administer medical and hospital benefit funds to which members of existing societies could contribute: funds, membership and activities of this description are excluded from statistics of ordinary friendly society activities. F.H.S. later extended its scope to 'ordinary' society activities. Details of the latter only are included in friendly society statistics.

Membership

Friendly societies were a form of social organisation to help members meet the costs of sickness, burial, etc. at a time when government social services were either meagre or non-existent. Membership reached a maximum (over 22,000 in male lodges) in the pre-depression years but has since steadily declined. From the 1950s, there has been rapid development of various government-encouraged insurance schemes to assist families with hospital and other expenses associated with sickness; such schemes have evolved, in general, outside the framework of the friendly society movement.

With F.H.S. excluded from consideration, it was observed that: (i) decline in membership of other ordinary societies has continued (from 8,557 members in 1959 to 4,164 in 1970); (ii) the average age of members has continued to increase (from 36.7 years in 1920 to 64.8 years in 1970, 70 per cent of the members being aged more than 60 years).

In the following table male and female members of the F.H.S. Sickness and Assurance Fund and Whole of Life and Endowment Fund have been included.

Friendly Society Membership and Number Who Received Sick Pay, 1970

Particulars	Membership Details					Members Who Received Sick Pay
	Financial Members	Total Membership	Average Age of Members	Admissions	Departures	
	no.	no.	years	no.	no.	no.
All Societies (excluding Friendly Health Services)—						
Male	4,027	4,087	64.8	6	235	677
Female	77	77	65.1	..	7	3
Total	4,104	4,164	64.8	6	242	680
Friendly Health Services ..	712	876	28.2	296	84	39
Total All Societies ..	4,816	5,040	58.4	302	326	719

In the next table, which excludes details for F.H.S., the figures show the decline in membership of other ordinary societies:

Societies, Lodges and Membership (a)
(Number)

Particulars	1965	1966	1967	1968	1969	1970
Societies	8	8	8	8	8	8
Lodges—Male	107	107	107	105	105	105
Female	6	6	6	6	6	6
Benefit Members ..	5,481	5,181	4,931	4,684	r 4,400	4,164
Financial Members ..	5,429	5,128	4,827	4,612	r 4,347	4,104

(a) Friendly Health Services excluded.

Revenue and Expenditure

The following table shows the net revenue and expenditure (excluding interfund transfers and transfers between districts and lodges) of friendly societies for the financial years which ended in 1970:

Friendly Societies (a): Net Revenue and Expenditure, 1970
(£)

Revenue			Expenditure		
Particulars	Total	Per Financial Member	Particulars	Total	Per Financial Member
Members' Contributions (b) ..	59,121	12.28	Medical Attendance and Medicine	1,850	0.38
Interest, Rent and Dividends ..	82,264	17.08	Sick Pay	19,787	4.11
All other Income	23,106	4.80	Funeral Benefits	46,937	9.75
			Administration	36,719	7.62
			Endowment Benefits ..	6,600	1.37
			Other	25,204	5.23
Total	164,491	34.16	Total	137,097	28.47

(a) Includes Friendly Health Services.

(b) Includes levies.

The next table summarises the main items of receipts and expenditure and accumulated funds for the period 1966 to 1970:

Friendly Societies (a): Receipts, Expenditure and Accumulated Funds
(\$'000)

Year	Net Receipts (b)		Net Expenditure (b)				Accumulated Funds
	Contributions and Levies	Total (c)	Sick Pay	Funeral Benefits	Other (d)	Total	
1966 ..	44	178	19	40	82	141	1,415
1967 ..	52	154	20	45	93	158	1,413
1968 ..	51	154	18	49	126	193	1,373
1969 ..	58	156	20	50	69	139	1,390
1970 ..	59	164	20	47	71	137	1,415

(a) Includes Friendly Health Services.

(b) Excludes interfund transfers and transfers within societies.

(c) Comprises: (i) income from investments (\$82,000 in 1970); (ii) grants received by Friendly Health Services from the ordinary societies; and (iii) other revenue items not specified in the table.

(d) Includes administration and medical attention expenses and endowment benefits paid by societies to members.

The following table shows the growth of the capital of friendly societies since 1920, together with the average capital per financial member:

Friendly Societies: Accumulated Capital
(\$)

Year (a)	Capital		Year (a)	Capital	
	Total	Per Financial Member		Total	Per Financial Member
1920	549,194	26.23	1950	1,231,486	82.41
1930	819,372	36.62	1960	1,390,122	182.31
1940	989,328	50.91	1970 (b)	1,414,790	293.77

(a) At close of the financial years, observed by societies, which ended during calendar year shown.

(b) Includes Friendly Health Services.

Registered Building Societies

Types of Registered Society

There are two distinct types of building societies registered under Tasmanian law, namely permanent and terminating (or co-operative).

Permanent Societies: These societies are both savings and deposit-receiving institutions which advance funds for home-building against the security of first mortgages. Those who invest by taking shares or by making deposits are in a separate category from those who borrow to build a home. The following table summarises the transactions of the permanent building societies in Tasmania:

Permanent Building Societies

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	no.	no.	no.	no.	no.
Operating Societies	4	4	6	6	6
Investing Shareholders	8,460	8,800	10,600	11,650	13,104
Borrowers	5,000	5,360	5,580	5,840	6,094
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Made	5,338	7,893	6,826	10,273	6,520
Repaid	3,032	3,439	3,960	4,332	5,137
Deposits—Received (a)	8,330	11,651	14,185	22,805	29,549
Withdrawn	7,527	9,574	12,913	20,535	26,876
Liabilities—					
Paid-Up Capital and Subscriptions ..	9,155	10,831	13,226	16,156	17,780
Accumulated Profits, Reserves ..	959	784	784	951	1,079
Deposits	11,550	13,627	14,898	17,169	19,841
Other	359	1,498	944	1,746	844
Total	22,024	26,740	29,853	36,022	39,544
Assets—					
Loans on Mortgage	20,463	24,918	27,784	33,724	35,107
Other	1,561	1,822	2,069	2,298	4,437
Total	22,024	26,740	29,853	36,022	39,544

(a) Includes interest credited to depositors' accounts.

Terminating Societies: These are societies which, by their rules, are to terminate at a fixed date or when a result specified in their rules is attained. Societies issue members one class of share and require equated monthly instalments towards share capital from members; when a member borrows to build (and only a member may borrow) he is required to pay additional equated monthly instalments, such addition constituting interest only. The regular instalments in respect of share capital are calculated to amount, with interest, to the nominal amount of the member's shares over the life of the society (say 26 or 30 years). If the member takes out shares with a nominal value of \$6,000, then his borrowing ceiling is set at \$6,000—in other words, the member takes out, in nominal share capital, the amount which he wishes to borrow for home-building. In effect, the member is contributing to a sinking fund for the liquidation of his loan. The terminating societies are termed 'co-operative'.

In the following table relating to co-operative housing (terminating) societies, 'Loans from Government' and 'Loans Due to Government' refer principally to loan money made available under the Commonwealth-State Housing Agreement. Such funds are advanced to the societies through the Agricultural Bank which acts as agent for the Commonwealth Government in this field. The limit of an individual loan was raised from \$8,000 to \$9,000 in August 1969 and further increased to \$10,000 in August 1972. The next table summarises the transactions of the co-operative housing societies in Tasmania:

Co-operative Housing Societies

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	no.	no.	no.	no.	no.
Operative Societies	63	69	75	87	92
Shareholders	1,417	1,634	1,716	1,942	2,089
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Made	1,000	1,652	1,088	1,735	1,622
Repaid	271	404	440	454	480
Loans from—Government	693	1,277	1,014	1,059	1,333
Other Lenders	291	439	155	737	373
Repayments to—Government	277	393	419	497	539
Other Lenders	168	222	262	200	237
Liabilities—					
Share Subscriptions	525	630	738	852	980
Reserves	198	249	316	378	447
Loans Due to—Government	4,183	5,067	5,662	6,224	7,018
Other Lenders (a)	2,112	2,330	2,224	2,761	2,897
Other	72	96	107	132	176
Total	7,089	8,370	9,048	10,348	11,518
Assets—					
Loans on Mortgage	6,930	8,178	8,827	10,109	11,250
Other	160	192	221	239	268
Total	7,089	8,370	9,048	10,348	11,518

(a) Includes bank overdrafts for day-to-day running of societies.

Co-operative Societies

The next table summarises the financial transactions of societies registered under Tasmanian law as co-operative industrial societies; excluded are co-operative credit societies which are dealt with in a subsequent section. The activities of co-operative societies include processing of primary products, fish and meat marketing and wholesaling groceries; profits are distributed among members.

Co-operative Societies

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	no.	no.	no.	no.	no.
Societies	15	16	16	17	17
Shareholders	5,252	5,575	5,705	r 6,391	6,434
	\$'000	\$'000	\$'000	\$'000	\$'000
Sales	9,533	10,142	9,967	r 10,451	11,063
Less Cost of Goods	8,073	8,429	8,411	r 8,832	9,278
Trading Profit	1,459	1,714	1,555	r 1,619	1,784
Add Non-operating Receipts (a)	1,066	1,068	1,198	1,306	1,256
Less Expenses—					
Wages and Salaries	677	783	665	788	893
Interest	116	125	129	130	169
Administration	61	53	245	281	281
Other	1,373	1,576	1,478	r 1,499	1,623
Net Surplus	298	244	234	227	74
Dividends Paid	52	18	51	56	74

(a) Commissions, discounts, services, etc.

The next table shows the assets and liabilities of the societies:

Co-operative Societies: Assets and Liabilities at End of Year
(£'000)

Particulars	1966-67	1967-68	1968-69	1969-70 ^r	1970-71
Liabilities—					
Paid-up Capital	1,190	1,219	1,221	1,224	1,248
Accumulated Profits	527	496	566	631	685
Reserve Funds	427	521	585	619	546
Loans and Bank Overdraft	2,095	2,182	2,082	2,229	2,388
Sundry Creditors	1,446	1,553	1,647	2,012	2,041
Other	175	288	242	267	352
Total	5,860	6,258	6,342	6,983	7,260
Assets—					
Fixed	1,957	2,025	2,019	2,144	2,155
Stock on Hand	937	996	961	1,236	1,224
Sundry Debtors	2,478	2,736	2,393	2,527	2,920
Other	487	501	969	1,076	961
Total	5,860	6,258	6,342	6,983	7,260

Co-operative Credit Societies

Description

The co-operative credit societies (credit unions) are registered under the *Co-operative Industrial Societies Act 1928*. Most credit unions have been established by trade unions (e.g. those serving teachers, hospital employees, etc.) and by church groups. Members contribute capital by taking out shares and making deposits. The aim of the societies is to make loans to members at low rates of interest.

Transactions

The following table shows the societies' annual transactions:

Co-operative Credit Societies

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Operating Societies	no. 16	no. 19	no. 19	no. 23	no. 26
Shareholders	5,738	8,696	10,428	13,681	16,983
Borrowers	3,284	5,226	6,091	8,153	9,773
Loans—Made	\$'000 1,570	\$'000 2,268	\$'000 2,664	\$'000 3,638	\$'000 4,543
Repaid	1,054	1,462	1,757	2,188	3,112
Deposits—Received (a)	1,475	2,062	3,430	5,290	6,978
Withdrawn	974	1,363	2,508	3,979	5,378
Liabilities (at End of Period)—					
Paid-Up Capital	49	71	89	118	149
Reserves, Accumulated Profits	27	38	69	75	84
Deposits	1,775	2,475	3,397	4,709	6,308
Other	108	135	163	355	318
Total	1,959	2,719	3,718	5,257	6,859
Assets (at End of Period)—					
Loans	1,805	2,611	3,518	4,968	6,399
Cash and Current Deposits	132	95	89	111	207
Other	23	14	111	178	254
Total	1,959	2,719	3,718	5,257	6,859

(a) Includes interest credited.

Pensions and Superannuation Schemes

Private Schemes

Surveys on an Australia-wide basis have revealed superannuation and/or retiring allowance schemes for employees in the private sector as follows: (i) schemes operated through life insurance offices, friendly societies and other organisations such as unit trusts; (ii) superannuation, pension and retiring allowance funds constituted by businesses; and (iii) direct payments of pensions and/or retiring allowances by the employer. No details have been released for individual States. Australian data are published in the Bureau's bulletin 'Survey of Selected Private Pension Funds'.

Government, Local Government and Semi-Government Schemes

The levels of government operating in Tasmania are: (i) Commonwealth; (ii) State; (iii) local authority; and (iv) semi-government authority. In the section that follows, any pension or superannuation scheme affecting employees of the Commonwealth Government or its instrumentalities is excluded; the principal fund so excluded is the Commonwealth Superannuation Fund for which State details are not available.

Government superannuation and pension schemes are included as part of 'Private Finance' because the funds involved do not belong to any government but are actually trust moneys held on behalf of contributors. Employees of the State Government contribute to separately constituted funds to which the State Government also makes contributions. Employees of local government and semi-government authorities are covered either by separately constituted funds or by schemes operated through life insurance offices.

The first pension and gratuity scheme for State public servants, introduced in 1860, was non-contributory and short-lived, being repealed in 1863. A contributory provident fund was established under the *Civil Service Act* 1900 but this scheme was also short-lived and made way for a contributory but State-subsidised scheme established under the *Public Service Superannuation Fund Act* 1905; a year earlier, a distinct fund had been established with similar principles to serve the teaching service. The *Superannuation Act* 1938 established a new fund to serve both public servants and teachers but some pensions continued to be paid from the two funds established in 1904 and 1905. It was not until 1 July 1968 that the residual assets and pension liabilities of these older funds were transferred to the State Superannuation Fund Board. The assets transferred from the 1904 teachers' fund were \$52,990 and from the 1905 public servants' fund, \$17,103.

State Superannuation Scheme 1971: In December 1970, the *Superannuation Fund Act* 1938 was amended to provide for adjustments to pensions in accordance with movements in the Consumer Price Index. Next, a new scheme was embodied in the *Retirement Benefits Act* 1970 the date of operation being fixed at 1 July 1971. Contributors to the 'old' scheme were given the right of election, i.e. to change to the 'new' scheme or to stay with the 'old'. The main provisions of the new scheme were as follows:

- (i) A new retirement fund was to be established with contributions from Government and employees.
- (ii) Employees transferring from the old scheme to the new were to pay contributions equivalent to 5.5 per cent of annual salary. New entrants to the State service were to have a choice and either pay at a 5.5 per cent or 2.75 per cent rate.
- (iii) Pensions payable would depend on three factors: (a) length of service (40 years is necessary to obtain the best pension rate); (b) average annual salary received during the last three years of service; and (c) the chosen percentage contribution (i.e. 5.5 per cent or 2.75 per cent).
- (iv) Pensions payable were to be adjusted according to the annual movement in the Consumer Price Index revealed in September quarter figures.
- (v) Persons entering the State service from prescribed superannuation funds were to be able to transfer to the Retirement Benefits Fund without being treated as new entrants (for calculation of length of service).

The adoption of fixed percentage contributions as the basis for the new scheme overcomes the main difficulty with the more traditional type of scheme, namely the prohibitive cost of new units for contributors in the upper-age brackets. The other improvement is the annual provision for automatic adjustment of the pension in accordance with price index movements.

Separately Constituted Funds: In the table that follows, the operations of the following schemes have been combined and summarised: (i) State Superannuation Fund; (ii) State Teachers' Superannuation Fund; (iii) Police Provident Fund; (iv) Metropolitan Transport Trust—Retiring Allowance and Staff Pension Funds; (v) Marine Boards' independent schemes; (vi) University of Tasmania—Staff Superannuation, Invalidity Pension and supplementary pension schemes; (vii) Hobart Corporation Retiring Allowance Funds; and (viii) Milk Board of Tasmania Superannuation Fund.

State Local Government and Semi-Government Pension and Superannuation Schemes Operated Through Separately Constituted Funds

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	1,582	1,763	1,985	2,239	2,715
Employing Authorities	1,694	1,959	2,169	2,368	2,700
Interest, Dividends and Rent	1,177	1,307	1,450	1,654	1,905
Other Income	361	59	75	18	71
Total	4,815	5,088	5,679	6,278	7,392
Expenditure—					
Pensions	2,008	2,290	2,530	2,762	3,132
Lump Sum Payments—					
On Retirement or Death	122	194	273	347	570
On Resignation or Dismissal	350	399	445	495	485
Other Expenditure	52	114	25	68	105
Total	2,532	2,998	3,273	3,673	4,292
Total Assets (a)	22,736	24,829	27,241	29,903	32,914
Funds in Operation	no. 13	no. 14	no. 12	no. 12	no. 12
Contributors (a)	11,963	12,829	13,329	13,618	14,006
Number of Pensioners at End of Year	2,515	2,638	2,700	2,757	2,886

(a) At end of year.

State Superannuation Fund: In the previous table, the principal fund included is the State Superannuation Fund contributed to by all permanent full-time employees of the Public Service, Teaching Service, Transport Commission, Hydro-Electric Commission and all hospitals subsidised by the State Government. The following table gives principal details of the State Superannuation Fund:

State Superannuation Fund (a)

Particulars	1968	1969	1970	1971
Contributors	11,490	12,004	12,268	12,643
Pensioners—				
Ex-employees	1,459	1,518	1,585	1,635
Widows and Children	1,108	1,147	1,154	1,217
Accumulated Funds (b)	20,717	22,929	25,190	27,962

(a) At 30 June.

(b) Total assets less liabilities.

Police Provident Fund: The Police Provident Fund, a *closed fund* included in an earlier table, had accumulated funds of \$3,002,279 at 30 June 1971. An amendment of the *Superannuation Act* 1938, in 1963, provided that police officers appointed after 31 December 1963 were required to become contributors to the State Superannuation Fund. Police officers appointed prior to 1 January 1964 could continue as contributors to the Police Provident Fund or exercise an option to become contributors to the State Superannuation Fund.

Schemes Operated Through Life Insurance Offices: A number of local government and semi-government authorities in Tasmania operate pension and superannuation schemes for their employees through life insurance offices. The next table combines and summarises the operations of such schemes. The following are the main authorities concerned: (i) Semi-government—marine boards, fire brigades, Metropolitan Transport Trust (Launceston and Burnie), University of Tasmania, ambulances, Society for Blind and Deaf, Museum and Art Gallery, Botanical Gardens; and (ii) Local Government—the cities and municipalities. Some authorities e.g. University, Metropolitan Transport Trust, etc. operate schemes on both bases, i.e. some through separately constituted funds, and others through life insurance offices.

Local and Semi-Government Pension and Superannuation Schemes Operated Through Life Insurance Offices

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	302	353	415	463	519
Employing Authorities	449	503	595	663	782
Surrenders	127	91	78	143	148
Death Claims	34	79	34	73	99
Matured Policies	77	63	117	87	220
Other Income	5	15	23	30	37
Total	993	1,104	1,260	1,458	1,804
Expenditure—					
Premiums Paid to Insurance Companies	750	855	1,010	1,129	1,308
Benefits—					
On Death or Retirement	118	143	155	154	318
On Resignation or Dismissal	114	80	64	123	131
Other Expenditure	9	9	13	19	29
Total	992	1,087	1,242	1,425	1,786
Funds in Operation	no. 20	no. 20	no. 20	no. 20	no. 19
Contributors (at End of Period)	2,098	2,200	2,392	2,374	2,436

Miners' Pension Fund

In 1943 a Bill was introduced into the Tasmanian Parliament to establish a miners' pension fund; the legislation received Royal Assent in 1944. For the purposes of the original legislation and subsequent amending Acts a mine was defined as '... a coal mine or oil-shale mine in this State, and includes a quarry in this State from which coal or oil-shale is obtained, and all the land at or near the entrance to the workings in such a mine or quarry and occupied by the owner in connection with the winning of coal or oil-shale therefrom.' Hence only employees working at mines or quarries falling within the preceding definition may qualify for membership of the Miners' Pension Fund.

From the Fund, administered by a three-man board, pensions are paid to miners upon retirement or when incapacitated by injury, etc. and, in certain circumstances, to widows and dependants. Contributions to the Fund are made by the State Government, mine owners and miners. Details are as follows:

Miners' Pension Fund

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees	2	2	3	2	2
State Government	30	30	30	30	30
Mine Owners	8	9	11	12	11
Interest, Dividends and Rent ..	12	11	10	10	9
Total	53	52	54	54	53
Expenditure—					
Pensions	71	67	69	61	57
Other Expenditure	3	2	3	2	2
Total	74	70	71	63	59
Assets (at End of Period)	222	205	187	178	172
Contributors (at End of Period) ..	no. 52	no. 58	no. 58	no. 54	no. 53
Pensioners (at End of Period)	157	155	153	151	145

Until 1962-63, the State Government contributed an amount to match that of the mine owners, the employers' share being related to coal production. After actuarial investigation, it was decided to strengthen the Fund and an amount of \$30,000 was stipulated in amending legislation as the Government's maximum annual contribution. The maximum has since been paid.

The Parliamentary Pension and Superannuation Scheme

The Tasmanian Parliament, in common with the parliaments of the other States and the Commonwealth, operates a superannuation scheme for the benefit of members who retire or are defeated after having served a minimum qualifying period. Basic rate pensions for Tasmanian members are payable after fifteen years' service, lesser rate pensions being calculated pro-rata to length of service expressed as a fraction of fifteen years; if the fraction is less than $\frac{8}{15}$ (i.e. service less than eight years) then a member merely receives a refund of his contributions. A member by increasing his contribution rate by $1\frac{1}{3}$, $1\frac{2}{3}$ or twice the basic rate, can increase the benefit received by the same proportion. (In June 1972, members were paying \$444.96 per annum for the base rate entitlement.)

Prior to 1968, the basic rate pension was the Hobart basic wage (as varied from time to time). In 1968 the *Parliamentary Retiring Allowances Act* was amended to substitute a new formula for calculation of the basic rate. The formula is \$12.50 weekly plus 34.5 per cent of Australian average weekly earnings per employed male unit in each year ended March (as calculated from employment and wages data on pay-roll tax returns). The formula, when applied in 1968, gave a close approximation to the basic wage current in State Wages Boards' determinations \$34.40). In 1971 the formula gave a basic rate of \$42.19 compared with the State Wages Boards' basic wage determination of \$39.00. The basic rate, revised annually in this way, replaces the basic wage specified in the original Act.

For the ordinary member, the scheme was purely contributory and was not State-subsidised until 1969-70 when the accumulated funds became inadequate (hence the large government grant in that year); the \$3,000 government contribution shown for previous years was a special payment in respect of a retired member who had held office as premier for not less than 15 years.

Transactions of the fund (Parliamentary Retiring Allowances Trust) are shown in the following table:

State Parliamentary Pension and Superannuation Scheme
(**\$'000**)

Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Income—						
Members' Contribution						
(a)	35	37	40	39	41	43
Government Contribution	3	3	3	3	34	49
Interest	4	3	2	2	..	..
Total	41	43	45	43	75	92
Expenditure—						
Pension Payments (b)	45	48	50	68	86	90
Other (incl. Refunds) ..	..	4	..	11	1	3
Total	45	52	50	79	86	92
Total Assets (at End of Period)	63	54	49	14	4	..
Less Liabilities	1	1	2	3	3	..
Accumulated Funds ..	62	53	48	12	..	..

(a) Number of contributors throughout period, 54 (House of Assembly, 35; Legislative Council, 19). Contribution for basic rate pension compulsory.

(b) Number of pensioners at 30 June 1971: ex-members, 20; widows of ex-members, 12.

The fund and scheme just described is administered by a trust, consisting of the President of the Legislative Council, the Speaker of the House of Assembly and the Under Treasurer, all *ex officio*; the trust has the power to appoint its own secretary and has chosen for this office the manager of the Treasury's Superannuation Branch.

Real Estate Transactions

Title to Land

When acquiring land today, the buyer needs to know whether the documents are under the 'old system' or the 'new system'. The new system dates from the *Real Property Act* 1862 when Tasmania introduced an adaptation of the Torrens system (Sir Robert Torrens' Real Property Act became law in S.A. in 1858). The Torrens system provides that the matter of title to land shall be a government responsibility. Each piece of separately-owned land is represented by a certificate of title which, with a few minor exceptions, is guaranteed by the State; in Tasmania, the issue and registration of titles is the work of the Land Titles' Office. A statutory assurance fund is maintained to indemnify owners against loss through error.

Land alienated before 1862 was not subject to the provisions of the *Real Property Act* and transactions involving such land are still being recorded under the *Registration of Deeds Act* (the first Tasmanian Deeds Act was made in 1827); this is the 'old system', involving complicated conveyancing, searching, etc. The conveyance is merely evidence of ownership as between the parties to the agreement and lacks the element of conclusive proof inherent in the Torrens certificate of title which proclaims 'that the person mentioned in it is owner of the land therein described as against all the world.' Put another way, land passing from A to B, and then to C under the old system requires a search to ascertain the validity of B's ownership and then of A's ownership; under the new system, C's certificate of title is adequate proof without any reference to A and B.

The dual system persists to this day but the *Local Government (Registered Titles) Act* 1966 provided that all new sub-divisions of land should be brought under the *Real Property Act* without charge. Fees on voluntary applications to bring land under the *Real Property Act* have also been abolished to encourage other owners to change to the Torrens system.

Property Sales and Mortgages

Sales of real estate, and mortgages on the security of real estate, involve either certificates of title, under the new system, or deeds, conveyances, etc. under the old system. In the following table, sales and mortgages recorded both under the *Real Property Act* and the *Registration of Deeds Act* are combined to give a single series showing real estate transactions in Tasmania over a ten-year period:

Real Estate Transactions (a)

Year	Property Sales		Mortgages			
	Number	Total Con- sideration	Registered		Discharged	
			Number	Amount	Number	Amount
		\$'000		\$'000		\$'000
1962-63	9,182	43,544	8,360	33,857	5,643	16,150
1963-64	8,946	47,602	8,754	37,516	6,172	18,264
1964-65	10,163	60,690	9,304	45,996	6,571	22,992
1965-66	10,272	56,637	9,818	44,999	6,722	22,957
1966-67	11,011	65,341	9,408	52,258	7,578	24,990
1967-68	11,626	72,651	10,233	60,980	7,419	25,086
1968-69	10,657	74,069	10,616	67,009	7,009	25,237
1969-70	11,478	87,763	9,877	68,924	7,359	28,490
1970-71	11,092	85,043	9,085	66,468	7,150	32,286
1971-72	11,452	91,435	9,803	71,007	7,813	37,332

(a) Registered under the *Real Property Act* and *Registration of Deeds Act*.

Chapter 13

HOUSING AND BUILDING

DWELLING STATISTICS

Intercensal Estimates of Houses and Flats

It is not possible to prepare a detailed analysis of dwellings between censuses but intercensal estimates of the number of houses and flats by local government areas are prepared. The base for the estimates is the total number of occupied and unoccupied private houses and flats as recorded at the preceding Census. The Census figures are then adjusted for: (i) demolitions, destructions by fire, conversions and transfers of houses and flats; and (ii) completions of new houses and flats. Transfer of houses between local government areas is merely a redistribution and does not affect total number of houses for the State. Information about demolitions, conversions and transfers is obtained from local government authorities and the Hydro-Electric Commission. The number of new houses and flats completed is available from the quarterly Building Construction collection conducted by the Bureau.

The following table shows the distribution of total houses and flats recorded at the 1966 Census and the estimated distribution for later years:

Number of Houses and Flats at 30 June

Local Government Area (Statistical Division and Sub-division in Bold Type)	Houses and Flats			
	Census	Estimated (b)		
	1966 (a)	1969	1970	1971
Hobart (H)	15,352	15,700	15,942	16,225
Glenorchy (H)	10,209	11,148	11,427	11,826
Clarence (H)	8,180	9,251	9,844	10,282
Brighton (H) (S)	613	626	632	650
Kingborough (H) (S)	3,048	3,013	3,102	3,204
New Norfolk (H) (S)	2,371	2,577	2,634	2,681
Sorell (H) (S)	1,294	1,457	1,528	1,606
Bothwell (S)	349	341	343	342
Bruny (S)	291	291	298	313
Esperance (S)	1,075	1,121	1,139	1,143
Glamorgan (S)	493	556	570	589
Green Ponds (S)	269	278	279	280
Hamilton (S)	1,134	1,142	1,284	1,264
Huon (S)	1,449	1,482	1,505	1,513
Oatlands (S)	775	782	787	791
Port Cygnet (S)	756	758	765	765
Richmond (S)	510	516	521	525
Spring Bay (S)	550	593	613	639
Tasman (S)	499	552	577	587
HOBERT	38,918	} 52,184	53,790	55,225
SOUTHERN	10,299			

Number of Houses and Flats at 30 June—*continued*

Local Government Area (Statistical Division and Sub-division in Bold Type)	Houses and Flats			
	Census	Estimated (b)		
	1966 (a)	1969	1970	1971
Launceston	11,209	11,359	11,400	11,445
Beaconsfield	3,284	3,565	3,681	3,785
Deloraine	1,482	1,541	1,558	1,574
Evandale	471	475	475	479
George Town	1,514	1,695	1,749	1,817
Lilydale	1,961	2,117	2,169	2,219
Longford	1,625	1,590	1,607	1,622
St Leonards	3,605	4,218	4,331	4,474
Westbury	1,430	1,523	1,546	1,569
Tamar	26,581	28,083	28,516	28,984
Campbell Town	545	545	549	550
Fingal	1,157	1,190	1,198	1,209
Flinders	345	372	375	376
Portland	558	657	693	722
Ringarooma	880	888	889	895
Ross	182	189	189	189
Scottsdale	1,199	1,293	1,318	1,353
North Eastern	4,866	5,134	5,211	5,294
NORTHERN	31,447	33,217	33,727	34,278
Burnie	4,745	5,341	5,473	5,617
Circular Head	1,995	2,199	2,253	2,268
Devonport	4,650	5,394	5,641	5,840
Kentish	1,424	1,621	1,657	1,665
King Island	721	750	756	782
Latrobe	1,325	1,436	1,489	1,538
Penguin	1,230	1,306	1,352	1,374
Ulverstone	2,881	3,150	3,217	3,315
Wynyard	2,583	2,889	3,015	3,115
North Western	21,554	24,086	24,853	25,514
Gormanston	118	118	118	118
Queenstown	1,093	1,127	1,247	1,260
Strahan	165	169	172	175
Waratah	91	404	426	451
Zeehan	734	800	848	911
Western	2,201	2,618	2,811	2,915
MERSEY-LYELL	23,755	26,704	27,664	28,429
TASMANIA	104,419	112,105	115,181	117,932

NOTE: Symbols above mean: H = Hobart Division; S = Southern Division; (H) (S) = part of municipality in Hobart Division and remainder in Southern Division.

(a) Comprises only those dwellings classified as private (occupied or unoccupied) houses and flats.

(b) Census figures adjusted for new houses and flats completed, demolished, destroyed by fire, transferred between local government areas, etc.

BUILDING STATISTICS

Scope

For statistical purposes, building relates exclusively to the erection of new buildings (including major new additions to existing buildings); construction work such as the building of railways, bridges, earthworks, water storages, piers, wharves, etc. is excluded. Minor additions, alterations, renovations and repairs to buildings are also excluded because of the difficulty of obtaining lists of persons who undertake this work.

When a dwelling is attached to a new building, the whole unit, both in regard to number and value, is classified according to the type of new building (e.g. a new shop and dwelling is classified simply as a shop). Figures for flats include 'home units' but not conversions of existing buildings into flats. Number of flats refers to the number of new individual dwelling units.

Details obtained from government authorities on their construction programmes and from building contractors refer to all parts of the State. Details for owner-builders cover only those areas subject to building control by local government authorities; thus some farm buildings are excluded but this does not materially affect the figures.

Source of Data

The main statistics relate to building approvals and to building operations (commencements, completions, etc.). The data are derived as follows:

Building Approvals: These comprise: (i) approvals by local government authorities for the construction of private buildings; (ii) contracts let and day labour projects commenced by governmental authorities; and (iii) private buildings reported by contractors to have been commenced in certain areas of the few rural municipalities where building regulations do not apply to the whole municipality. Details are compiled monthly.

Building Operations: Returns are obtained from: (i) building contractors engaged in the erection of new buildings; (ii) owner-builders; and (iii) Commonwealth, State, local and semi-government authorities. Statistics are compiled at quarterly intervals.

Definitions

Contract-built: Includes the operations of all building contractors and government authorities which undertake the erection of new buildings.

Owner-built: An 'owner-built' house is one actually erected or being erected by the owner, or under the owner's direction, without the services of a contractor who is responsible for the whole job.

Commenced: A building is regarded as having been commenced when work on the foundations has begun.

Completed: A building is regarded as having been completed when the contractor has fulfilled the terms of the contract.

With both 'completions' and 'commencements' there is some difficulty in maintaining a uniform classification since the definition of an exact point of time in building operations is involved.

Under Construction: A building is so classified if it is uncompleted at the end of the period, whether or not work on it was actively proceeding at that date.

Values: All values shown exclude the value of land and represent the estimated value of buildings on completion. In the case of owner-built dwellings, the owner-builder is required to estimate the value from the cost of the materials and the cost of labour, including his own.

New buildings, including dwellings, with an estimated value on completion of less than \$1,000 for approvals and \$2,000 for construction are excluded from the tabulations.

Building Approvals

The following table shows details of building approvals; a distinction is made between 'private' and 'government' and the information is dissected to give separate figures for Urban Hobart, Urban Launceston and the remainder of the State. In 1970-71 40 per cent of the total value of building approvals was attributed to Urban Hobart, 12 per cent to Urban Launceston and 48 per cent to the remainder of the State.

Housing and Building
Building Approvals, 1970-71

Particulars	Urban Hobart	Urban Launceston	Remainder of State	Total Tasmania
NUMBER				
New Houses—Private	403	254	1,312	1,969
Government	225	38	349	612
Total	628	292	1,661	2,581
VALUE (\$'000)				
New Houses—Private	5,589	2,821	12,923	21,333
Government	1,923	313	3,050	5,286
Other New Buildings (a)—				
Private	11,209	2,823	10,249	24,281
Government	8,646	2,092	6,354	17,092
Alterations and Additions—				
Private	1,094	456	1,251	2,801
Government	89	42	122	253
All Buildings—Private	17,892	6,101	24,422	48,415
Government	10,657	2,447	9,527	22,631
Grand Total	28,550	8,547	33,949	71,046

(a) Includes flats.

The next table shows the decline in the number of building approvals for private new houses since 1966-67. Building of houses in 1966-67 and 1967-68 was at a higher than normal level due to the urgent need to replace many dwellings destroyed during the severe bushfires in southern Tasmania in February 1967.

Building Approvals, Selected Years

Particulars	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
NUMBER						
New Houses—						
Private	1,860	2,500	2,393	2,206	2,124	1,969
Government	413	718	916	488	532	612
Total	2,273	3,218	3,309	2,694	2,656	2,581
VALUE (\$'000)						
New Houses—						
Private	12,473	21,057	22,212	22,292	22,417	21,333
Government	2,717	4,720	7,870	3,602	4,214	5,286
Other New Buildings (a)—						
Private	8,120	16,154	16,972	14,543	21,214	24,281
Government	5,258	12,022	24,964	11,855	11,690	17,092
Alterations and Additions—						
Private	1,711	1,880	1,942	2,219	2,464	2,801
Government	260	179	452	211	274	253
All Buildings—						
Private	22,304	39,091	41,126	39,054	46,095	48,415
Government	8,235	16,921	33,286	15,667	16,177	22,631
Grand Total	30,539	56,012	74,412	54,721	62,272	71,046

(a) Includes flats.

Government Construction of Houses: The post-war era was notable for the entry of the State Government into the housing field on a large scale; in November 1945, the Commonwealth Government entered into an agreement with the States whereby it would provide finance for housing projects to be built by the State governments. Under the agreement, Tasmania received \$5,670,000 which it repaid on withdrawing from the scheme in August 1950. The Tasmanian Government nevertheless continued to build houses using the resources available from its own Loan Fund. In 1956, the State Government entered into a new agreement with the Commonwealth, an arrangement renewed with minor modifications in 1961 and 1966. The aggregate advances in Tasmania to 30 June 1971, under the Commonwealth-State Housing Agreements, amounted to \$89,477,000. (Advances under the Commonwealth-State Housing Agreements are additional to State net loan expenditure.)

The following table shows, for Tasmania, the number of new houses completed, and distinguishes between those built for government authorities (all types) and those built for private persons:

Number of New Houses Completed For Government Authorities and Private Persons

Year	For Government Authorities	For Private Persons	Total	Year	For Government Authorities	For Private Persons	Total
1961-62	547	1,850	2,397	1966-67	627	2,138	2,765
1962-63	563	1,941	2,504	1967-68	737	2,594	3,331
1963-64	554	1,957	2,511	1968-69	735	1,969	2,704
1964-65	579	2,000	2,579	1969-70	683	2,178	2,861
1965-66	557	1,703	2,260	1970-71	627	1,636	2,263

The proportion of houses built for government authorities has fluctuated between 30 per cent of total houses completed (1950-51) to as low as 18 per cent (1959-60); in 1970-71 the proportion was 28 per cent. Statistics of houses completed for government authorities do not fully reflect the effect of government policy since the category 'houses built for private persons' includes construction financed, in some cases, by government loans to private persons. Of the \$89,477,000 aggregate advances made in Tasmania to 30 June 1971 under the Commonwealth-State Housing Agreements, 29 per cent represents advances to private persons, either through the mechanism of the Agricultural Bank or the co-operative building societies. Similarly, 'houses built for private persons' includes those built with advances under the Commonwealth's *War Service Homes Act* where the ex-serviceman has obtained the services of a private contractor or operates as an owner-builder.

The principal construction authority in Tasmania is the State Housing Department but 'houses built for government authorities' includes construction by, or for, other State and Commonwealth departments, instrumentalities, etc.

New Houses Constructed: The next table shows details of number and value of houses commenced, completed and under construction:

Construction of New Houses

Year	Commenced		Completed		Under Construction (a)	
	Number	Value (b)	Number	Value (b)	Number	Value (b)
		\$m		\$m		\$m
1965-66	2,202	17.8	2,260	17.8	1,542	11.6
1966-67	2,952	24.6	2,765	22.1	1,729	14.1
1967-68	3,142	27.5	3,331	28.3	1,538	13.3
1968-69	2,580	25.4	2,704	25.5	1,372	12.9
1969-70	2,682	27.6	2,861	28.3	1,163	11.9
1970-71	2,546	27.0	2,263	24.5	1,393	14.5

(a) At end of year.

(b) When completed.

In 1966-67 and 1967-68 the increase in commencements and completions was due, in part, to the replacement of many of the 1,200 dwellings destroyed in the bushfires of February 1967.

Material of Outer Walls: The following table shows the number of new houses completed and their classification according to the material used in their outer walls. Until 1963-64, wood was the predominant material used for outer wall construction. However, since then there has been a continuous fall in the proportion of houses completed with wooden walls.

Number of New Houses Completed Classified by Materials of Outer Walls

Material of Outer Walls	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
Brick, Concrete, etc.—						
Solid	209	167	131	177	173	93
Veneer	636	1,159	1,593	1,547	1,719	1,618
Wood, (Weatherboard, etc.)	1,562	1,073	1,395	755	577	350
Asbestos Cement	80	354	207	124	137	121
Other .. .. .	..	12	5	101	255	81
Total	2,487	2,765	3,331	2,704	2,861	2,263

Construction of New Houses and Flats

In the following table, details are given of completions of new houses and new flats:

New Houses and Flats Completed

Particulars	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
NUMBER						
New Houses—						
Government Ownership—						
Contract-built	202	360	474	447	370	307
Day Labour	271	267	263	288	313	320
Private Ownership—						
Contract-built	1,047	1,223	1,705	1,170	1,279	1,092
Owner-built	967	915	889	799	899	544
Total New Houses	2,487	2,765	3,331	2,704	2,861	2,263
New Flats (Individual Units) (a) ..	175	185	292	366	502	667
Total New Houses and Flats ..	2,662	2,950	3,623	3,070	3,363	2,930
VALUE (\$'000)						
New Houses	16,254	22,063	28,305	25,523	28,283	24,459
New Flats (Individual Units) (a) ..	952	1,167	1,773	2,619	3,887	4,816

(a) Individual dwelling units; conversions of existing dwellings to flats are excluded.

Approximately one-third of all new dwellings built in Tasmania in recent years has been located in Urban Hobart. The State Housing Department's activities in southern Tasmania since 1968 have been concentrated in the Clarence Municipality, with the result that more houses have been built in that municipality during the last four years than in any other.

The next table shows the distribution of houses and flats completed during 1969-70 and 1970-71:

Number of New Houses and Flats Completed

Area	1969-70			1970-71		
	Houses	Flats	Total	Houses	Flats	Total
STATISTICAL DIVISIONS AND SUB-DIVISIONS						
Hobart	1,120	290	1,410	935	509	1,444
Southern	303	4	307	109	1	110
Northern—						
Tamar	447	56	503	452	88	540
North Eastern	85	6	91	61	9	70
Total	532	62	594	513	97	610
Mersey-Lyell—						
North Western	747	91	838	593	53	646
Western	159	55	214	113	7	120
Total	906	146	1,052	706	60	766
Total Tasmania	2,861	502	3,363	2,263	667	2,930
URBAN AREAS						
Urban Hobart	856	282	1,138	686	503	1,189
Urban Launceston	281	53	334	301	82	383

Construction of All New Buildings

The previous tables in this section have been concerned with the construction of new houses or of new houses and flats. In the five years ended 30 June 1971, the value of houses and flats completed has approximated half of the total value of all new buildings completed in each year. The next table shows the value of all new buildings completed according to type; houses and flats are included to allow comparison.

Value of All New Buildings Completed: Classified According to Type
(*\$'000*)

Type of Building	1960-61	1966-67	1967-68	1968-69	1969-70	1970-71
Houses (a)	16,254	22,063	28,305	25,523	28,283	24,459
Flats	952	1,167	1,773	2,619	3,887	4,816
Hotels, Guest Houses, etc.	968	1,301	934	1,513	2,107	2,609
Shops	1,646	835	1,903	1,103	2,348	2,097
Factories	2,882	5,891	9,686	8,722	6,322	7,451
Offices	2,138	2,711	1,409	4,539	5,291	2,905
Other Business Premises	2,082	4,338	2,339	3,019	1,753	4,330
Education	5,006	2,616	4,572	3,853	6,469	4,259
Religion	366	321	178	316	576	377
Health	894	4,103	3,836	2,251	4,965	1,921
Entertainment and Recreation	360	577	616	507	925	1,264
Miscellaneous	480	2,293	6,332	2,984	3,527	3,197
Total All Buildings	34,028	48,218	61,881	56,947	66,452	59,684

(a) Includes estimated value of owner-built houses.

The following table gives details of the total value of all new buildings commenced, completed and under construction. The items included under 'all new buildings' are specified in the previous table.

Value (When Completed) of All New Buildings (a)
(£m)

Year	Com- menced	Com- pleted	Under Construc- tion (b)	Year	Com- menced	Com- pleted	Under Construc- tion (b)
1961-62	35.4	33.5	27.8	1966-67	62.1	48.2	51.3
1962-63	34.6	34.1	28.4	1967-68	63.2	61.9	52.5
1963-64	34.7	34.0	29.1	1968-69	56.2	56.9	51.9
1964-65	42.0	37.7	33.5	1969-70	62.1	66.5	51.0
1965-66	43.8	39.7	37.4	1970-71	70.2	59.7	63.5

(a) Includes estimated value of owner-built houses.

(b) At end of period.

The following table shows the distribution of the value of new buildings completed according to type:

Value of New Buildings Completed, By Type of Building, 1970-71
(\$'000)

Area	Houses	Flats	Shops	Factories	Education	Other Buildings
STATISTICAL DIVISIONS AND SUB-DIVISIONS						
Hobart	10,734	3,793	1,364	3,837	2,196	6,402
Southern	975	4	7	139	358	476
Northern—						
Tamar	4,929	631	192	1,873	813	4,056
North Eastern	484	44	..	27	163	269
Total	5,413	675	192	1,900	976	4,325
Mersey-Lyell—						
North Western	6,313	310	536	1,279	624	4,444
Western	1,026	35	..	296	104	956
Total	7,339	345	536	1,575	728	5,400
Total Tasmania	24,459	4,816	2,097	7,451	4,259	16,602
URBAN AREAS						
Urban Hobart	10,057	3,754	1,236	3,351	1,956	5,681
Urban Launceston	3,764	601	192	398	770	2,291

FINANCIAL ASSISTANCE FOR HOUSING

The State Housing Department

General

The Housing Department was established in July 1953 as a separate authority to administer that portion of the *Homes Act* 1953 which relates to the purchase and development of land for housing, and the erection of homes for rental and sale. Funds for these purposes are made available under the Commonwealth-State Housing Agreement; the funds form part of the State's annual loan borrowings (but are excluded from the State Public Debt). The Department uses both day labour and private contractors and has its own factory for timber storage, milling and joinery manufacture in addition to plumbing and electrical workshops, etc. Most dwellings constructed are three-bedroom timber or brick veneer units, roofed with tiles or corrugated iron. Flats for elderly persons, multi-unit flats and two-bedroom villa units have also been constructed.

Departmental Construction of Dwellings

During 1970-71, 631 dwellings (561 houses, 60 elderly persons' units and 10 villas) were completed. The following table shows the aggregate of dwelling units produced by the Housing Department (and by an earlier State housing construction authority) since 1944:

Aggregate of Dwellings Constructed by State Housing Department From 1944 to 30 June 1971 (a)

Type of Dwelling	Bed-Sitting Room	One Bedroom	Two Bedroom	Three Bedroom	Total
Single Unit—Timber ..	..	..	565	8,971	9,536
Other Material ..	..	..	5	2,430	2,435
Elderly Persons' Flatettes ..	195	155	..	..	350
Maisonettes .. ..	..	..	12	10	22
Multi-unit Flats (Individual Units) .. ..	..	125	157	14	296
Villa Flats .. ..	..	..	10	..	10
Total Dwelling Units ..	195	280	749	11,425	12,649

(a) Construction to 30 June 1953 undertaken by Housing Division of State Agricultural Bank; subsequent construction by State Housing Department.

Dwellings for Rental

Flats, maisonettes and elderly persons' homes are for rental only. Houses may be occupied on either a rental or purchase contract basis. There is no actual income limit for eligibility to rent, but families on higher incomes may be expected to purchase. The weekly rental of a newly erected three bedroom house in the Hobart metropolitan area approximated \$19.30 in the June quarter 1972. In all cases where the occupiers' incomes are insufficient to enable them to afford the full economic rental, rebates may be provided. Rebates are graduated according to the incomes of the occupiers. Under the current rental rebate formula a married couple occupying an elderly persons' flatette, whose only income is the age pension, pay \$3.80 while a single elderly person solely dependent on the pension pays \$2.00 a week (these rates were current at 30 June 1972).

Dwellings for Sale

Sales are made on a no deposit purchase contract basis with repayments over a maximum term of 53 years but buyers are encouraged to pay a deposit if they are in a position to do so. When the agreed purchase price and other charges have been paid ownership of the property is transferred from the Department to the purchaser. Purchase contracts are sometimes surrendered to the Department; when this happens any equity which may have been established in the property is forfeited. Purchasers may sell their homes in certain circumstances. The aggregate number of purchase contracts less surrenders entered into by 30 June 1971 was 8,209. The sale price, excluding land, of a new three-bedroom Department house in the Hobart metropolitan area was approximately \$10,300 in the September quarter 1972.

The weekly repayment instalment for a dwelling is less than the weekly rent of a similar dwelling because a purchaser is responsible for maintenance and rates and taxes.

Amounts outstanding in respect of loans made by the Housing Department by way of purchase contracts are shown in the following table:

Housing Department: Purchase Contracts at 30 June

Loans Outstanding	1966	1967	1968	1969	1970	1971
Number	5,781	6,163	6,631	7,099	7,435	7,770
Value \$'000	37,452	40,583	44,708	48,940	52,199	55,892

The interest rate at 30 June 1972 was five per cent, the immediate previous rate being six per cent. To be eligible for purchase contract terms an applicant must be married, or about to be married, or have dependants for whom it is necessary to provide a home. Date of application, number of dependants, income and existing accommodation are considered in determining applicants' priorities.

Agricultural Bank of Tasmania—Advances to Homebuilders

Housing Function

The Agricultural Bank, as an approved institution under the Commonwealth-State Housing Agreement, receives part of Commonwealth housing funds for advances to home builders. Prior to the commencement of the agreement (1956), the Bank borrowed from the State Loan Fund and from private institutions. To be eligible for a loan, an applicant must be married or about to be married or have dependants for whom it is necessary to provide a home, and be over the age of 21 years. The maximum amount of an advance is \$9,000 for all types of houses, provided that the total advance does not exceed 90 per cent of the Bank's valuation of land and dwelling cost. Advances are repayable by equated instalments over a period of up to 30 years. The interest rate at 1 July 1972 was 6½ per cent per annum.

The following table shows details for recent years:

Agricultural Bank: Advances for Housing (a)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Advances Approved—					
Number	279	219	338	274	322
Value \$'000	2,159	1,737	2,708	2,250	2,840
Advances Outstanding (b) .. \$'000	14,930	16,172	17,697	19,184	20,939

(a) Excludes advances to building societies.

(b) At end of period.

The Agricultural Bank also acts as agent for the State in the transmission of advances under the Commonwealth-State Housing Agreement to the co-operative building societies; details of such advances and of the building societies appear in Chapter 12, 'Private Finance'.

Following the bushfire disaster of February 1967, the Bank was required to administer a separate scheme providing finance for home owners who wanted to build replacement homes to their own design. The net amount of these advances outstanding at 30 June 1972 was \$245,982.

The Commonwealth Department of Housing

General

The Department has four main functions: (i) to assist certain ex-servicemen to obtain housing with finance made available on a term of up to 45 years at an interest rate of 3¾ per cent; (ii) to administer the Homes Savings Grant Scheme; (iii) to advise the Federal Minister on the Commonwealth-State Housing Agreements; and (iv) to advise on the administration of the Housing Loans Insurance Scheme. A further function is to provide and manage self-contained furnished accommodation for migrant families. Tenancy of the accommodation is limited to six months.

War Service Homes Loans

Broadly, to be eligible for a loan, an ex-serviceman must have dependants, and must have volunteered for, or had, overseas service. Also, he must not be the owner of a home at the time of seeking a loan. The following table shows details of War Service Homes activities in the provision of finance for Tasmanian housing. Transfers of loans (and houses) between borrowers are not shown as expenditure, nor are details given of additional loans advanced for alterations, etc. to homes already subject to War Service Homes finance.

War Service Homes Operations: Homes Financed in Tasmania

Year	Loans Approved (a)	Homes Financed			Expenditure
		Homes Purchased (b)	Homes Built	Mortgages Discharged (c)	
	no.	no.	no.	no.	\$'000
1965-66	252	167	35	24	1,562
1966-67	184	107	25	37	1,170
1967-68	187	108	15	47	1,195
1968-69	180	123	13	41	1,350
1969-70	181	127	6	32	1,300
1970-71	217	133	9	49	1,530

(a) Loans *approved* are not necessarily paid out in the same year. A transfer from one borrower and a resale to another is included as a loan approved but not included elsewhere.

(b) New or existing properties not previously subject to War Service Homes finance.

(c) Mortgages, raised by individuals to build homes, discharged by War Service Homes on satisfactory completion of the home.

Homes Savings Grant Scheme

The scheme was introduced by the Commonwealth Government in 1964 to encourage young people to save for their first marital home. ('Young' means under 36 years at the time of signing the contract.)

The maximum value of a home (including the land), which may attract a homes savings grant, is \$22,500. The maximum grant (a gift) payable is \$750 on savings of \$2,250. Savings acceptable include accounts with savings banks, fixed deposits with trading banks (but not cheque accounts) and deposits with or shares in registered permanent or co-operative building societies. Savings with credit unions are acceptable providing that not less than 20 per cent of the credit union's total annual lending is for housing. The following table gives details, for recent years, of grants made under the scheme:

Home Savings Grants in Tasmania

Year	Grants Approved for—			Grants Made—	
	Home Purchase	Contractor Construction	Owner Construction	Number	Value
	no.	no.	no.		\$'000
1965-66	341	240	174	760	325
1966-67	395	172	117	684	273
1967-68	458	205	121	784	305
1968-69	442	212	101	755	300
1969-70	432	208	76	716	297
1970-71	638	264	101	947	370

Housing Loans Insurance Corporation

The Housing Loans Insurance Corporation was established by the Commonwealth *Housing Loans Insurance Act* 1965-1966 to administer the Housing Loans Insurance Scheme under which approved lenders may be insured against losses arising from the making of housing loans. The Corporation consists of a Chairman (who is also Managing Director) and a Deputy Chairman, who are full-time members plus three part-time members, all of whom are appointed by the Governor-General.

The main purpose of the Housing Loans Insurance Scheme is to assist people to borrow, as a single loan at a reasonable rate of interest, the money they need and can afford to re-pay to obtain a home suited to their requirements.

To encourage the making of high-ratio loans the Corporation will insure loans up to 95 per cent of valuation for houses, or 90 per cent for home units with the maximum amount of loan being \$30,000. A once-and-for-all premium of $1\frac{1}{2}$ per cent of the amount of the loan is charged by the Corporation for loans of 90 per cent to 95 per cent of valuation. For loans below 90 per cent of valuation, lesser premium rates apply. The premium is payable by the borrower, but lenders may agree to add it to the amount of the loan for repayment by the borrower over the duration of the loan.

The maximum rate of interest that may be charged on insured loans (June 1972) is $8\frac{1}{4}$ per cent per annum and the maximum period for repayment is 40 years for houses and 35 years for home units. The maximum rate of interest is kept under continuing review and may be varied by the Corporation, with the concurrence of the Minister for Housing, whenever changes appear to be warranted by movements in interest rates generally.

The Housing Loans Insurance Corporation insures loans that are made for a wide range of purposes in addition to the purchase or construction of a dwelling. The other purposes include alterations, extensions or improvements to a dwelling and the provision or improvement of roads, kerbing and footpaths.

An insured loan may be made only by an approved lender. Approved lenders are appointed by the Corporation from within approved classes of lenders specified by the Federal Minister for Housing. The approved classes include banks, building societies, co-operative housing societies, friendly societies, life insurance companies, general insurance companies, trustee companies and solicitors' and superannuation funds.

The Housing Loans Insurance Corporation commenced its insurance operations in November 1965 and to 30 June 1972 had insured loans in Tasmania amounting to \$40.5m.

The following table shows, for a three-year period, the number of loans insured, their purpose and amount:

Housing Loans Insurance Corporation
Loans Insured in Tasmania

Purpose of Loan	1969-70		1970-71		1971-72	
	Number	\$'000	Number	\$'000	Number	\$'000
Housing—						
Building a New House	74	702	83	801	117	1,296
Purchase of—						
New House	87	906	80	833	123	1,365
Used House	452	4,032	641	5,542	1,047	9,137
Discharge of Mortgage	31	285	21	182	42	386
Home Units	3	35	11	127	17	152
Other	5	52	7	54	5	53
Total	652	6,012	843	7,539	1,351	12,389

Chapter 14

EDUCATION AND CULTURAL ACTIVITIES

EDUCATION IN TASMANIA

Introduction

In 1869 Tasmania became the first colony in the British Empire to make education compulsory. The ages for obligatory attendance at school were progressively widened: in 1898 school attendance was made obligatory between the ages of seven and 13 years; in 1912 between six and 14 years; and in 1946 Tasmania became the only Australian State to make attendance compulsory up to the age of 16, the starting age being six.

Education in Tasmania is now provided at primary, secondary and tertiary levels by government institutions and to secondary level by non-government schools.

A period of 82 years in which the State accepted no financial responsibility for non-government education ended in 1967 when amendments to the *Education Act* 1932 allowed government grants to independent schools. The assistance is paid on a capitation basis and is dependent upon the level of schooling of the pupil.

The task of Tasmanian educational authorities, as in other Australian States in the post-war period, has been to provide more schools, more teachers and better facilities; the principal factors exerting pressure have been: (i) a rapidly growing school population; (ii) a change in attitude resulting in increased demand for secondary and tertiary education; and (iii) community acceptance in general of the need for better education.

The sections that follow deal with:

- (i) Education in government and non-government schools.
- (ii) University and advanced college of education courses.
- (iii) Technical education.
- (iv) Adult education.
- (v) Commonwealth activities in education in Tasmania.

Schools, Government and Non-Government

General

In 1946 the Tasmanian government and non-government systems of education were re-organised to provide a three, four or five-year post-primary course. (The pre-war system of secondary education had comprised two stages, a three-year course followed by a two-year course; with a leaving age of 14, and with *selective entry* to government high schools, the proportion of pre-war pupils taking secondary education was very low.)

The dual nature of educational responsibility in Tasmania and the numbers of pupils in both government and non-government schools, in primary and secondary grades, are shown in the following table:

Government and Non-Government Schools
Pupils Enrolled at 1 August According to Grade of Education
(Number)

Particulars	1967	1968	1969	1970	1971
Government Schools—					
Primary Grades (a)	49,827	50,603	51,658	51,677	51,361
Secondary Grades	23,659	24,765	25,900	26,895	27,888
Special	779	741	781	813	843
Total	74,265	76,109	78,339	79,385	80,092
Non-Government Schools—					
Primary Grades	8,633	8,675	8,381	8,293	8,028
Secondary Grades	6,280	6,272	6,328	6,302	6,361
Special	(b)	27	31	28	26
Total	14,913	14,974	14,740	14,623	14,415
Total All Schools	89,178	91,083	93,079	94,008	94,507

(a) Includes kindergarten classes; see text below.

(b) Prior to 1968 non-government 'Special School' pupils were included under primary and secondary grades.

Kindergarten Classes

In this Chapter, the term *kindergarten* is used to describe all pre-school classes, irrespective of whether they operate attached to other schools or whether they operate as separate entities. Strictly speaking as the primary level of education begins in Grade 1 separate figures are shown in a later table, for enrolments in kindergartens.

The State (or Government) School System

Introduction

The present system had its genesis in the *Education Act 1885*, under which a department was established, headed by a Director of Education, responsible to a Minister. Under the Act, aid to non-government schools was abolished and only in 1967 was this principle re-introduced (with a system of capitation subsidies).

Education is compulsory between the ages of six and 16 years although, in some cases, special exemptions may be obtained. Virtually all schools are co-educational. Education is secular and free; parents buy their children's books, paints, instruments, etc. Pupils' transport is either provided by the Department or subsidised where daily travel costs on public transport exceed 10 cents. The arrangement of transport has been important in the organisation of area, district and high schools where educational facilities are concentrated and centralised, thereby eliminating the smaller country schools.

Present Organisation

Under a Director-General operate three Directors designated: (i) primary; (ii) secondary; and (iii) technical. Superintendents are responsible for specific activities and districts; supervisors assist in administration and provide services to schools. Specialist sections deal with curricula, teaching aids, science equipment, speech education, music, physical education, guidance and welfare, school libraries, educational planning and research, etc.

Expenditure on Education

The following table shows educational expenditure by the State Government from the public account; expenditure from Trust Funds is made by the State acting mainly as agent for the Commonwealth.

Expenditure on Education from Consolidated Revenue, Loan Fund and Trust Funds
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
From Consolidated Revenue—					
Teacher Training	1,354	1,614	1,800	2,099	2,675
Primary Education	6,481	7,165	7,854	8,951	10,983
Secondary Education	6,633	7,274	8,809	9,922	12,291
Tertiary Education—					
Technical	1,047 {	1,013	1,129	1,215	1,381
Advanced		400	583	716	245
University		1,637	1,788	2,038	2,444
Special Schools for Handicapped Children	266	248	289	324	408
Other	3,379	3,788	3,120	3,553	4,514
Total	20,598	23,142	25,372	28,818	34,942
From Loan Fund (a)—					
Primary Education	867	1,268	1,493	1,169	1,132
Secondary Education	936	1,224	1,093	1,125	1,343
Tertiary Education—					
Technical	243 {	290	—81 {	275	—21
Advanced				156	658
University		1,121	592	1,216	171
Other	894	1,029	1,280	1,527	2,408
Total	4,061	4,106	4,377	5,467	5,691
From Trust Funds	2,160	2,560	3,452	3,612	4,124
Grand Total	26,819	29,808	33,201	37,897	44,757

(a) *Net* expenditure.

It should be noted that the preceding table includes amounts voted under other departmental heads for the provision of educational facilities, principally rental and tenancy charges and water, sewerage and other rates paid by the Lands and Surveys Department.

Enrolment

Enrolments in government schools in the last five years were:

Government Schools
Number of Pupils at 1 August

Pupils	1967	1968	1969	1970	1971
Boys	38,592	39,624	40,725	41,319	41,783
Girls	35,673	36,485	37,614	38,066	38,309
Total	74,265	76,109	78,339	79,385	80,092

Age of Pupils in Each Class

The following table summarises the system of government schooling in Tasmania showing the average ages of pupils in each class and the type of certificate issued for final year examinations:

Government Schools
Average Age of Pupils, Primary and Secondary, in Each Class and Certificates Issued

Primary Schools (including Primary Classes of District and Area Schools)				Secondary Schools (including High Schools and Secondary Classes of District and Area Schools)				
Grade				Year	Mean Age at 1.8.71		Certificate Issued	
					Years	Months		
Kindergartens—								
Separate	4	10	1	12	9			
Attached	5	4	2	13	9			
1	6	7	3	14	9			
2	7	9						
3	8	9	4	15	9			
4	9	9	5 (a)	16	8			
5	10	9	6 (a)	17	9			
6	11	9						

(a) Secondary years five and six indicate pupils in their first or second year at Higher School Certificate level.

Number of Government Schools

The following table shows the number of government schools in Tasmania:

Number of Government Schools at 1 August

Type of School	1966	1967	1968	1969	1970	1971
Kindergartens (Separate)	56	59	58	58	45	44
Primary (a)	138	137	136	140	143	144
Primary with Secondary Classes	14	13	10	9	8	7
Special	15	16	15	15	15	16
Area (b)	35	35	35	35	35	35
District (b)	6	7	7	8	6	6
High	29	28	27	27	28	28
Matriculation Colleges	1	2	3	3	3	3
Total	294	297	291	295	283	283

(a) Many have kindergartens attached.

(b) These schools provide both primary and secondary facilities.

Pre-School (Kindergarten) Education

Until 1969, pre-schools were established on the initiative of groups of parents, the Department providing the cost of the building but eventually recovering half its outlay from the parents. Commencing in 1969, all new facilities for pre-school education are being provided in kindergartens attached to primary schools. At present, there is a mixture of pre-school facilities, some being provided at primary schools and others constituting separate entities. Pupils at this level of education are shown in the next table:

Enrolments in Kindergartens at 1 August

Particulars	1967	1968	1969	1970	1971
Kindergartens—					
Separate	2,632	2,862	2,635	1,938	1,928
Attached	2,280	2,543	3,343	4,217	4,502
Total (a)	4,912	5,405	5,978	6,155	6,430

(a) Included in other tables as part of total government school enrolments.

State Primary Schools

General: As shown in the earlier table dealing with average ages of pupils, primary education commences at Grade 1 and finishes at Grade 6. However, some pupils entering Grade 1 will have attended kindergarten classes, either attached to primary schools or constituted as separate entities.

Primary Classes: The majority of government primary schools have six grades with kindergartens attached; very few have secondary grades as well. Generally parents may select the school they prefer for their children without restriction but, in some areas, zoning directs children to attend a particular primary school.

In addition 35 area schools and six district schools have primary grades and draw many pupils from outlying localities previously served by one or two-teacher schools. Free transport has made this possible and has led to a reduction in the total number of primary schools.

Primary Curriculum: The primary school curriculum has undergone considerable changes in recent years both in teaching methods and subject matter. The subjects are English (including reading, spelling, oral and written work), history, geography, arithmetic, science, art, music, arts and crafts, religious and moral education, and health and physical education.

Pupil Grouping: Promotion within the schools is generally by age at the beginning of the school year, with accelerated progress or repetition of classes at the headmaster's discretion; grouping may be by ability, where numbers allow, with each child being able to work with his equals in each subject, regardless of age. *Differential teaching* adapts the school programme to meet the widely varying needs and abilities of pupils. The skilled subjects of reading, writing, spelling and arithmetic are particularly suited to this method of teaching, testing and grading. Some schools have experimented widely with *non-grading*, a method of organisation which allows pupils in certain subjects to work at their own level of competence. A few other schools have adopted this organisation in one or two subjects only.

Primary Pupils: The table below shows the age and number of pupils receiving primary education in Tasmanian government schools:

Age and Number of Pupils Receiving Government Primary Education (a) at 1 August

Age Last Birthday (Years)	1967	1968	1969	1970	1971
Under 7	13,282	13,368	13,644	13,566	13,368
7	7,153	7,442	7,445	7,174	7,058
8	7,060	7,395	7,633	7,449	7,127
9	6,946	7,098	7,313	7,498	7,394
10	6,682	6,807	7,069	7,283	7,518
11	6,340	6,222	6,400	6,620	6,826
12	2,124	2,088	1,943	1,924	1,889
13	219	170	192	142	160
14	19	12	15	12	14
15 and Over	2	1	4	9	7
Total—Boys	25,827	26,295	26,831	26,800	26,652
Girls	24,000	24,308	24,827	24,877	24,709
Pupils	49,827	50,603	51,658	51,677	51,361

(a) Includes kindergarten classes.

Special Schools and Special Classes

The Department has special schools, and also special classes in ordinary schools, for children who are physically handicapped, mentally retarded, or otherwise unable to profit from ordinary class teaching. Instruction varies according to the handicap; where it is physical, the main need is to maintain normal or near-normal individual programmes. Many pupils eventually can be transferred to ordinary schools into the grades appropriate to their ages.

Schools and classes for slow learners and mentally retarded children follow the curricula for kindergartens and primary schools but no attempt is made to reach examination standards. The teaching of activities and basic skills is the main concern in these classes which are to be found in some primary and high schools.

Government Secondary Schools

Almost all children attend secondary classes, starting at an age varying from 11½ to 13 years. If a choice has to be made between a high and an area school a transfer committee considers the matter, taking note of performance in grade VI. High schools are non-selective, comprehensive and, with two exceptions, co-educational.

The differences between the types of secondary schools are related mainly to the level of the final examination or certificate available to students. The levels under the recently re-organised system are: School Certificate endorsed Preliminary (three-year course); School Certificate (four-year course); Higher School Certificate (five or six-year course). The School and Higher School Certificates replace the Secondary Schools, Schools Board and Matriculation Certificates which were last awarded in 1968.

The essence of the new system is: (i) all assessment and certification comes under a single authority, a newly constituted Schools Board of Tasmania; (ii) two certificates only are issued; and (iii) the new certificates record achievement in *subjects* and are not *group* certificates as in the old system. The new certificates are:

The School Certificate: Awarded in subjects for three and four-year courses; basis of award is by internal assessment and recommendation by schools.

The Higher School Certificate: Awarded in subjects studied in fifth or sixth secondary year; basis of award is an external examination conducted by the Board (not the University as for matriculation in the past). The University is still free to determine what constitutes qualification for university entrance and can nominate the subjects and the levels of achievement at the Higher School Certificate examination necessary for entry; the scope of the examination has been enlarged to cover subjects not designed primarily for purposes of university entrance.

A more detailed account of the new examinations and procedures adopted for awarding the School and Higher School Certificates is contained in a later section, 'Examinations'.

The following table shows the age and number of students in Tasmanian government secondary schools:

Pupils Receiving Government Secondary Education at 1 August, By Age

Age Last Birthday (Years)	1967	1968	1969	1970	1971
11	433	365	(a) 453	(a) 518	(a) 420
12	4,119	4,536	4,457	4,756	4,864
13	5,753	6,140	6,519	6,262	6,640
14	6,111	5,968	6,242	6,503	6,381
15	4,586	4,664	4,950	5,107	5,540
16	1,744	2,070	2,188	2,408	2,522
17	681	774	862	1,047	1,130
18 and Over	232	248	229	294	391
Total—Boys	12,294	12,875	13,442	14,022	14,609
Girls	11,365	11,890	12,458	12,873	13,279
Pupils	23,659	24,765	25,900	26,895	27,888

(a) Includes boys under 11 years: 1969, one; 1970, four; 1971, one.

The next table shows the number of secondary pupils by sex and class in all government schools:

Secondary Pupils in Government Schools at 1 August by Class

Year	Secondary Year						Total	
	1	2	3	4	5	6		
Boys								
1967	..	3,445	3,234	3,069	1,696	474	376	12,294
1968	..	3,691	3,297	2,970	1,912	557	448	12,875
1969	..	3,646	3,586	3,041	2,050	616	503	13,442
1970	..	3,668	3,541	3,260	2,191	797	565	14,022
1971	..	3,669	3,590	3,301	2,476	865	708	14,609
GIRLS								
1967	..	3,213	3,133	2,897	1,491	418	213	11,365
1968	..	3,421	3,125	2,963	1,635	486	260	11,890
1969	..	3,354	3,362	2,937	1,952	555	298	12,458
1970	..	3,292	3,283	3,145	2,067	696	390	12,873
1971	..	3,347	3,211	3,156	2,333	789	443	13,279

Area Schools

These cater for children following mainly non-academic courses leading to preliminary awards, by internal assessment in subjects of the School Certificate, after three years. There is a bias towards rural science, technical subjects and home arts, but the course, as a whole, now approximates that provided in high schools at School Certificate Preliminary Level. The English course is framed to help children write and speak fluently and mathematics is concerned largely with practical examples. There has been experimental work in these schools, especially in programmed learning, and mainly in mathematics.

Subjects for the School Certificate are available to pupils in some primary schools with secondary classes, in all area and district schools, and in all high schools.

Government Matriculation Colleges

In 1965 the Hobart High School became the Hobart Matriculation College, no junior students having been enrolled after 1961. The Launceston High School reached this stage in 1967. At these colleges, students are exclusively concerned with Higher School Certificate subjects undertaken as one or two-year courses which, in 1969, replaced the matriculation group certificate courses. The Higher School Certificate is awarded in individual subjects. In 1968 the Elizabeth Matriculation College, the third matriculation centre for the State, was opened; elimination of junior students was completed by 1970. A new college is currently being constructed to serve Hobart's eastern suburbs and is expected to take its first pupils in 1973. Students may also attempt Higher School Certificate subjects at high schools in Burnie and Devonport. Subsidised transport and hostels assist many students attempting the Higher School Certificate.

The advantage claimed for matriculation colleges is that they concentrate, in the one centre, teachers who are specialists in this field; further, the students benefit to the extent that the colleges are an intermediate step between the disciplined high school and the university.

Correspondence School

This school offers a wide variety of courses at the primary and post-primary levels, and provides instruction for adults as well as children. Valuable assistance is given to pupils in secondary classes of some primary schools and area schools to assist them to achieve School Certificate standard.

The courses available include all primary and most secondary subjects: mathematics, English literature and history at the Higher School Certificate stage; English for New Australians; and courses for adults with special problems such as illiteracy.

Teachers and Teacher Training

There is a variety of courses available to trainee teachers in this State. The University of Tasmania awards the Diploma of Education after one year of a post-graduate course or the Certificate of Education after a two-year undergraduate course. The Hobart and Launceston Teachers Colleges provide two-year and three-year courses for primary and infant teachers. For secondary school teachers, the two teachers colleges provide a four-year mathematics and science course; also, the Hobart college provides a three-year commercial course and the Launceston college a three-year home arts course. Other teaching courses are at the University (three-year physical education), the Conservatorium of Music (three-year course), the Tasmanian School of Art, the Hobart Technical College, the Victorian School of Speech Therapy, etc.

With the assistance of the Standing Committee on Teacher Education, a number of important decisions on planning for the future of teacher training was taken in 1969, including approval for the incorporation of the Hobart Teachers College into the Tasmanian College of Advanced Education.

The following table shows the number of teachers, lecturers and instructors in Tasmanian government schools, technical colleges, etc:

Number of Government School Teachers, Lecturers and Instructors at 1 August 1971 (a)

Type of School	Full-time			Part-time		
	Males	Females	Persons	Males	Females	Persons
Kindergarten (Separate) .. .. .	..	44	44	..	6	6
Special	21	68	89	1	15	16
Primary	291	1,159	1,450	..	59	59
Primary with Secondary Classes	10	20	30	3	9	12
Area	148	293	441	8	39	47
District	40	75	115	2	7	9
High	654	557	1,211	16	36	52
High with Matriculation—						
High	49	38	87	..	6	6
Matriculation	23	17	40	..	1	1
Matriculation Colleges	102	60	162	2	4	6
Teachers Colleges (b)	21	16	37	9	9	18
Technical Colleges	159	30	189	461	104	565
Total	1,518	2,377	3,895	502	295	797

(a) Excludes teachers in non-teaching positions (e.g. curriculum branch staff guidance officers, speech education, music and training aid centres).

(b) Excludes Hobart Teachers College which is now part of the Tasmanian College of Advanced Education.

In the primary schools in 1971, 81 per cent of the teachers were females. All subjects are taught by each teacher in these schools but itinerant teachers, when available, take physical education, music and speech classes on a circuit basis with each teacher being responsible for the teaching of the subject in several schools. In the post-primary schools, most teachers are specialists attached to subject departments within each school. In area and district schools, one teacher may take several subjects, and agriculture, home arts and crafts and technical subjects are handled by resident or itinerant specialists as available.

The following table shows the number of teachers and teachers-in-training in Tasmania:

Full-Time Teaching Staff in Government Schools (a) and Teachers-in-Training at 1 August

Type of Teacher	1967	1968	1969	1970	1971
Head Teachers—					
Males	240	229	232	241	229
Females	9	13	12	12	15
Other Teachers—					
Males	1,055	1,084	1,104	1,119	1,197
Females	2,115	2,185	2,237	2,330	2,368
Monitors (b)—					
Females	11	..	..	..	..
Total Teachers (a)—Males ..	1,295	1,313	1,336	1,360	1,426
Females ..	2,135	2,198	2,249	2,342	2,383
Teachers-in-Training—					
Males	321	344	355	405	460
Females	679	712	773	763	856

(a) Includes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, etc.) but excludes those engaged in teacher training and technical education, and part-time teachers.

(b) Appointment of monitors ceased after 1967.

Teacher Training: The institutions where teachers-in-training are studying are shown in the next table:

Teachers-in-Training at 1 August

Institution Attended	1967	1968	1969	1970	1971
MALES					
Teachers College—Hobart (a)	23	36	45	56	62
Launceston	28	28	49	55	66
University of Tasmania	244	250	226	249	266
School of Art (a)	13	12	9	13	16
Tasmanian Conservatorium of Music (a)	5	8	5	4	2
Other Institutions	8	10	21	28	48
Total	321	344	355	405	460
FEMALES					
Teachers College—Hobart (a)	154	172	212	212	211
Launceston	170	186	215	211	264
University of Tasmania	308	312	298	287	325
School of Art (a)	16	17	24	34	35
Tasmanian Conservatorium of Music (a)	17	14	16	13	14
Other Institutions	14	11	8	6	7
Total	679	712	773	763	856

(a) Part of the Tasmanian College of Advanced Education from 1971.

Non-Government (or Independent) Schools

Introduction

Non-government schools have played a valuable part in Tasmanian education. Policies are framed by headmasters in conjunction with their senior staff and with the approval of their governing bodies or church. There can be freedom to experiment and to diversify courses if desired and this is shown by the number of subjects available to students.

Registration

Non-government schools and teachers have to conform with the regulations of the Teachers' and Schools' Registration Board. This Board consists of nine members who hear and determine all applications for registration and keep a record of all teachers and schools not administered by the Education Department. Every school is graded and teachers are registered in one or more classifications or as special subject teachers. 'Provisional' teachers are those gaining qualifications so they can be registered. The Board may prescribe the mode of classifying teachers, the course of study and training required, the examinations to be passed, and the recognition of overseas qualifications. To secure registration, schools must provide for proper access, drainage, light, ventilation and sanitary conveniences, and inspections may be made by officers appointed by the Board. A daily register of attendance has to be kept.

State Assistance to Non-Government Schools and Pupils

The *Education Act* 1932 was amended in 1967 to provide for direct payments to non-government schools, the amount being calculated on a capitation basis; the subsidies are paid on the number of pupils enrolled at 1 August each year; for 1972-73 the amounts were \$24 per annum per primary pupil; \$34 per annum per secondary pupil up to fourth-year level; and \$54 per annum per pupil at fifth and sixth-year level. The 1971-72 expenditure was \$402,000. From the beginning of 1970, the Commonwealth also provided per capita grants to independent schools. Details are contained in a later section dealing with Commonwealth activities in education. State legislation passed in June 1970 provides for subsidies related to building loans interest. The amount of subsidy paid in 1971-72 was \$49,000.

Apart from these subsidies, benefits include: matriculation allowances; secondary scholarships; free or subsidised transport; use of the facilities of the Department's Curriculum, Teaching Aids, Speech Education and Guidance Branches; attendance at trade and domestic science classes if room is available; and attendance by teachers at Departmental schools of method. Equipment can be purchased at favourable rates through the Supply and Tender Department.

Enrolment at Non-Government Schools

Most non-government school pupils are in schools controlled by religious denominations, as the next table shows.

Non-Government Schools and Pupils at 1 August
(Number)

Particulars			Church of England	Pres- byterian	Catholic (a)	Seventh- day Adventist	Other Schools	All Schools
PUPILS								
1967	..	.. Boys	1,050	314	5,105	70	697	7,236
		Girls	840	324	5,578	55	880	7,677
1968	..	.. Boys	1,029	335	5,061	74	748	7,247
		Girls	860	303	5,539	70	955	7,727
1969	..	.. Boys	1,003	303	4,968	80	770	7,124
		Girls	825	329	5,446	75	941	7,616
1970	..	.. Boys	969	280	4,896	70	812	7,027
		Girls	788	302	5,420	76	1,010	7,596
1971	..	.. Boys	878	256	4,800	70	876	6,880
		Girls	734	299	5,367	67	1,068	7,535
SCHOOLS								
1971	..	.. ..	4	2	49	3	10	68

(a) From 1968 includes one 'Special School' with an enrolment of approximately 30 pupils.

Of the 28 schools in 1971 which catered for secondary pupils, 19 had Higher School Certificate classes. Enrolment preference is usually given to children of past pupils or brothers and sisters of current pupils.

Most independent school pupils are to be found in primary classes, and most of these are in Catholic schools. The following table shows the numbers and ages of all pupils in non-government school primary and sub-primary classes:

Pupils Receiving Non-Government Primary Education at 1 August, By Age

Age Last Birthday (Years)	1967	1968	1969	1970	1971
Under 7	2,182	2,293	2,182	2,254	2,109
7	1,229	1,201	1,193	1,097	1,081
8	1,182	1,184	1,128	1,138	1,073
9	1,172	1,201	1,163	1,131	1,089
10	1,214	1,217	1,170	1,165	1,133
11	1,176	1,112	1,047	1,094	1,147
12	399	394	396	365	358
13	60	62	93	46	33
14	13	9	8	2	3
15 and Over	6	2	1	1	2
Total—Boys	4,194	4,161	4,051	3,978	3,829
Girls	4,439	4,514	4,330	4,315	4,199
Pupils	8,633	(a)8,675	(a)8,381	(a)8,293	(a)8,028

(a) Excludes the special school pupils specified in the note to the previous table.

The following table shows the age of pupils in non-government schools at secondary level:

Pupils Receiving Non-Government Secondary Education at 1 August, By Age

Age Last Birthday (Years)	1967	1968	1969	1970	1971
11	129	160	(a) 158	159	109
12	915	1,039	1,040	1,059	1,042
13	1,306	1,256	1,255	1,268	1,309
14	1,385	1,275	1,284	1,286	1,304
15	1,216	1,252	1,177	1,160	1,200
16	835	792	905	795	863
17	404	387	410	460	428
18 and Over	90	111	99	115	106
Total—Boys	3,042	3,086	3,073	3,049	3,051
Girls	3,238	3,186	3,255	3,253	3,310
Pupils	6,280	6,272	6,328	6,302	6,361

(a) Includes one 10-year old boy.

The following table shows the number of secondary pupils by sex and class in all non-government schools:

Secondary Pupils in Non-Government Schools by Year at 1 August 1971

Pupils	Secondary Year						Total
	1	2	3	4	5	6	
Boys ..	630	620	555	645	340	261	3,051
Girls ..	725	691	743	626	356	169	3,310
Total ..	1,355	1,311	1,298	1,271	696	430	6,361

Examinations

Introduction

The Schools Board of Tasmania was constituted on 31 October 1944 by the *Education Act* 1944 to devise and govern new systems of awarding school certificates.

In 1946 the school leaving age in Tasmania was raised to 16 years and the Board instituted a four-year course of academic secondary education leading to the Schools Board Certificate. The Intermediate Examination, which had been conducted by the University at third-year secondary school level until 1938, had been replaced by similar examinations conducted by the State Education Department and the Associated Public Schools. These were replaced in 1946 by the Schools Board Certificate, studied at fourth-year level.

This Schools Board Certificate demanded a level of achievement in basic and optional subjects after a four-year course of general education. Secondary schools were allowed the choice between an accrediting system or an external examination.

As a result of the proposals of the Schools Board and the Radford Report, the Schools Board was re-constituted with a membership of 21 on 1 September 1966, to allow the Board to become, in 1969, the sole examining and certifying body at the secondary level.

An important change of considerable significance to employers, and to the prerequisites they demand of applicants for employment, concerns the new type of certificate introduced in 1969. There are only two such certificates issued, known as the School Certificate and the Higher School Certificate. These replaced all previous certificates; the Schools Board Certificate, the Secondary Schools Board Certificate of the Education Department and the Matriculation Certificate of the University of Tasmania are no longer issued. The previous certificates were *group* certificates, demanding in varying degrees of detail, certain compulsory subjects or groups of subjects as a prerequisite to the award of the certificate. The essential difference is that both of the new certificates are *subject* certificates requiring no compulsory subjects or groups of subjects to be studied.

The Higher School Certificate is issued on the basis of an external examination conducted in December each year but for the School Certificate there are no external examinations and awards are determined by internal assessment with a wide variety of methods of evaluation. A system of regional moderation has been implemented by the Schools Board to ensure comparability of standards between schools. (*See the later section outlining the organisation of moderation procedures.*) Final results of the School Certificate are notified to candidates in December by the principal of the school attended by the candidate. Each candidate receives a printed result slip showing the level of study and the award given in each subject. The formal certificate is issued by the Schools Board of Tasmania.

The School Certificate

The subjects for this certificate may be taken at various levels and a wide choice is available to cater for different levels of ability and interests. A preliminary award (P) may be granted after the third year of secondary education to those candidates who leave school at this stage. The full award is granted to successful candidates who complete four years of study in the subject.

The Higher School Certificate

This is taken at the end of the fifth or sixth year of secondary education. Individual subjects may be attempted at Levels I, II or III.

From 1970, some Level III subjects have been studied in two divisions—Division 1 and Division 2; eventually all Level III subjects will be studied on this basis. A student must study both divisions to qualify for a full Level III award. Students who study only one division will be given an award at Level III (P) where (P) signifies either a preliminary or part study of the syllabus. Students may sit for examination in both divisions in the one year or in separate years.

Requirements for matriculation are determined by the University of Tasmania from the results of Level II and Level III subjects of the Higher School Certificate examinations conducted by the Schools Board of Tasmania.

State Organisation of Moderation Procedures

The Schools Board of Tasmania is the body responsible for awarding the secondary school awards (the School and Higher School Certificates) discussed in the previous section. The Schools Board is also responsible for ensuring development of satisfactory moderation procedures and the maintenance of subject standards. To this end, the State is divided into eight *moderation regions*. Moderation is the method used to ensure reasonable comparability of standards between schools throughout the State.

Committee for Moderation of Standards: This body determines subject standards and reviews moderation procedures. Members of the committee include representatives from the Schools Board, superintendents of high schools and representatives from non-government schools and the teachers' union—the Teachers' Federation.

Regional Council: Operations of the scheme for moderation of standards are reviewed by the Council which recommends variations to the Schools Board. Members include secondary school superintendents and school principals in the region. The chairman is appointed by the Schools Board from members of the Committee for Moderation of Standards.

Moderation Advisory Committee: Moderation procedures are planned in detail by the Committee which also investigates problems in particular subject fields. The chairman of the Committee for Moderation of Standards is also the chairman of this body; other members include the members of the Committee for Moderation of Standards and the chief moderators.

State Moderation Committee: The committee promotes the flow of ideas on moderation between regions and identifies and resolves problems connected with particular subjects. The chief moderator in each subject is chairman and the remaining members are the regional moderators (eight) in each subject.

Regional Moderation Committee: Application of moderation procedures within the region is the responsibility of this Committee. Chairmanship is vested in the regional moderator; other members are subject moderators from each school in the region.

As well as the various committees there are a number of positions, mostly filled by teachers, which are basic to the successful operation of the system. The following briefly outlines the functions associated with each position:

Chief Moderator: Appointed by the Schools Board and responsible for the co-ordination of moderation procedures between regions in each subject field.

Regional Moderator: Appointed by the Schools Board on the recommendation of the Regional Executive Committee. A regional moderator is appointed in each subject field. The duties associated with this position include: (i) maintaining contact between subject moderators within the region and ensuring satisfactory subject standards; and (ii) informing subject moderators of current developments in their subject and in the field of assessment.

School Moderator: This position will normally be held by the school principal. The school moderator's duties include: (i) appointing school subject moderators; (ii) determining the results of each School Certificate candidate in his school and submitting award recommendations to the Schools Board; (iii) communicating result sheets (showing percentage scores of students on test materials) to the Schools Board for distribution to the Regional Moderation Committees; and (iv) informing the Regional Executive Committee of names of teachers willing to accept nomination for the position of regional moderator.

Subject Moderator: Appointed by the school moderator. The duties include: (i) supervising all details of assessment in his subject for the award of the School Certificate; and (ii) informing the Regional Moderation Committee of proposed assessment plans.

Other Education Matters

Various functions of the Education Department are described in the following section; some of which are applicable to both government and non-government schools.

Equipment

The Department maintains an active interest in the development of teaching methods and of teaching aids. The Teaching Aids Centre provides specialised assistance to schools. A library of 16mm films, film strips and coloured slides and records are distributed on loan. The records are mainly used for music appreciation, poetry and languages. Printed aids, mainly in the form of charts and booklets, are provided (e.g. charts for cursive writing and booklets for the Cuisenaire system). Audio-visual aids (tape recorders, film projectors, centralised radio systems, strip and sound projectors, television receivers, etc.) are bought by the Centre and re-sold to the schools with a \$ for \$ subsidy given by the Department. Repair and maintenance of this equipment is done free of charge by the Centre. Specialised electronic equipment has been developed and produced, e.g. auditory training equipment for deaf students. A talks studio with recording equipment and tape duplicating facilities operates to prepare language laboratory programmes and the recording of school broadcasts.

A number of students' books are produced for sale to schools by both the Education Department and the Australian Broadcasting Commission.

Libraries

These have been built up in most schools, with departmental subsidies matching local funds up to levels determined by the size of the school. A new Central Library Service Branch offers bibliographic and technical advice to schools on library development. The library service, in conjunction with the Curriculum Branch, exercises control over comprehensive book and resource material displays.

Radio and Television Programmes

Radio: All schools in the State use one or more of the programmes provided by the Australian Broadcasting Commission. In most primary schools programmes are taken direct from the air, but secondary schools use a tape service provided by the Education Department Teaching Aids Centre. The Centre records all secondary school programmes and distributes the tapes on loan to schools which would otherwise have trouble fitting programmes into school timetables. Some primary programmes are also recorded for schools in poor reception areas.

Television: Tasmania leads the Commonwealth in the availability and use of educational television; programmes are provided by the A.B.C. Every government and non-government school within a television reception area is equipped with at least one receiver. The schools have a standard issue of one free set each and extra sets may be purchased. For extra sets the State Government provides a subsidy equal to 50 per cent of the purchase price. The maximum use of television is made by primary schools where timetables are quite flexible; many secondary schools have difficulty in planning timetables so that classes may view programmes. For this reason great interest is being shown in experiments with video-recording which, it is hoped, will make television as flexible an educational aid as pre-recorded radio programmes.

Selection of Programmes: Curriculum officers and teachers are represented on the planning and appraisal committees for all Tasmanian produced programmes. The committees also assist with selection of series from other sources.

Staff: Apart from technical staff, the A.B.C. employs a state supervisor of education (Schools Broadcasts), two radio producers, two television producers and associated staff. The Education Department provides a liaison officer and studio teachers, seconded full-time to the A.B.C.

Safety Officers

Transport Commission officers visit the schools regularly to give lectures and practical demonstrations dealing with various aspects of road safety. Driver education courses are given in some schools, a type of training likely to be extended. Periodically students are reminded of the dangers associated with explosives, firearms and drug abuse.

Parents and Friends Associations

While a major function of these bodies is fund-raising for the provision of subsidised equipment and library books, they also act as a valuable forum for discussion on education.

Migrant Education

This is arranged by the Department at certain schools or by combined radio-correspondence lessons to teach English to 'New Australians'. The cost of migrant education is reimbursed by the Commonwealth Government.

The School Free Milk Scheme

Free milk is available to all children under 13 years attending government and non-government primary and infant schools, kindergarten (pre-school) centres, creches, child-minding centres and orphanages. One-third of a pint of milk is supplied daily, the cost being borne by the Commonwealth. In 1971 the cost of milk supplied was \$536,000.

Bursaries

A system of bursaries exists to assist pupils in post-primary government and non-government schools. Junior bursaries, which may be held for four years, are awarded to pupils under the age of 13 who live in areas where the required type of secondary education is not available. Senior bursaries are awarded on the results of a competitive examination for pupils under 17.

There were 55 junior bursaries held during 1971, at a cost to the Bursaries Board of \$5,569. In 1972 10 junior bursaries were awarded. The Bursaries Board fund is made up of money from the Government and private donations.

In addition to junior and senior bursaries there are a number of other forms of financial assistance available to secondary school students through the Education Department.

The more important assistance schemes are:

- (i) *Matriculation Allowances* are payable, subject to a means test, to parents or guardians of full-time Higher School Certificate students. Annual allowances are \$60 if the student lives at home or \$200 if the student is obliged to board away from home. During 1971 362 allowances were granted and expenditure was \$24,380.
- (ii) *Matriculation Boarding Allowances* are not subject to a means test and are payable to fifth and sixth year full-time students who: (a) attend a government matriculation centre and are obliged to live away from home; (b) attend a non-government school and are obliged to live away from home and have also completed their first four years of secondary education at a government country high school. Allowances are \$200 if the student is accommodated at a departmental hostel and \$240 if the student has private board. Holders of *Matriculation Allowances* are not eligible for the *Matriculation Boarding Allowance*. During 1971 279 allowances were awarded and expenditure under the scheme was \$61,240.
- (iii) *Schools Board Allowances* are payable to parents or guardians of full-time students undertaking their fourth year of secondary education. The allowance, subject to a means test, amounts to \$40 per annum. The number granted during 1971 was 863 and expenditure was \$34,520.

- (iv) *Special Bursaries* are awarded in cases of necessitous circumstances and where the student has shown an aptitude for further study. For 1971, 147 special bursaries, involving expenditure of \$21,460, were awarded.
- (v) *Loan Issue Supplies* are provided to assist parents who are unable to meet the cost of text books, materials and subject levies associated with educating their children. Expenditure under this scheme during 1971 was \$84,654.

Advanced Education in Tasmania

Concept

Education at tertiary level has been available at universities but there have also been professional courses provided by other institutions; in Tasmania technical colleges provided courses of this type in addition to playing their main role in providing apprentice training, trade courses, etc. So, in effect, the development in recent years of colleges of advanced education does not represent a radical innovation but rather a rationalisation and re-organisation of non-university tertiary courses. The Commonwealth Government, having first accepted some financial responsibility for university education, has now gone further and is actively encouraging the development of colleges of advanced education.

In general terms, the colleges are providing tertiary education and training with a vocational emphasis, as distinct from the academic education provided by universities (though, of course, some university courses in Australia tend to be also vocational, e.g. legal and medical courses). In some States advanced education is being developed on a base provided by existing institutions but in Tasmania and the A.C.T. separate colleges have been established.

Finance

The Commonwealth provides \$1 for every \$1 of State capital expenditure; and \$1 for every \$1.85 of State recurrent expenditure. For the triennium 1970-1972, the Tasmanian College received, from all sources, \$6.5m for capital purposes and \$6.73m for recurrent expenditure.

Advanced Education Council and College

The Tasmanian *Advanced Education Act* 1968 established an advanced education authority comprising a chairman, vice-chairman and nine other members; the College registrar acts as secretary to the Council.

In June 1969 a contract was let for the Resources Materials Centre at the Mt Nelson College and during the 1970-1972 triennium work was done on the Schools of Education and Engineering and Physical Science. The appointment of the necessary staff began in 1971.

Premises where Advanced Education courses were conducted during 1972 included the Mt Nelson site in Hobart, the Hobart Technical College, the Hobart Teachers College, the Launceston Teachers College, the Launceston Technical College and the Burnie Technical College. Centralisation of southern activities at the Mt Nelson site is the target for 1973. However, there are no immediate plans for the construction of special premises in the north and north-west.

Courses

There are three schools: Business and Administration; Education and General Studies; Engineering and Physical Science; and also five departments: Art; Environmental Design; Conservatorium of Music; Pharmacy; and Dental Nursing.

The School of Education and General Studies provides professional education for teachers at all levels and further specialist education for experienced teachers; from 1973 librarian courses will be introduced. The School of Education building at Mt Nelson will be completed for use in 1973 and students will move there from the former Hobart Teachers College. The Launceston Teachers College will be incorporated as part of the School of Education.

The School of Engineering and Physical Science will be ready for occupation at Mt Nelson in 1973; courses include civil, electrical and mechanical engineering; surveying; applied chemistry; and medical laboratory technology. Technical college premises are used for these courses in Launceston and Burnie.

Formation of a School of Creative Arts is under consideration. It is expected to consist of three of the independent departments: the Department of Art, the Department of Environmental Design and the Conservatorium of Music. Although traditional nomenclature may continue to be applied, each will have the status of a department within the School of Creative Arts. It is envisaged that this School will become a centre for the arts with much interaction between departments, yet still retaining traditional specialisations. Drama, ballet and film making could also be incorporated into the School in the future.

The Department of Pharmacy offers a three-year course of instruction for the College's award in Pharmacy. A further year of practical experience entitles the holder to registration as a Pharmaceutical Chemist.

The Department of Dental Nursing is administered by the Department of Health Services. It conducts a two-year course, open only to scholarship holders and limited to an intake of 15 students each year. On graduation, the dental nurses work in schools treating children up to and including the age of 15 years.

The following table shows student enrolments in courses conducted under the advanced education scheme:

Advanced Education: Enrolments (a) by Course, 1971
(Number)

Course	Full-time		Part-time		Total	
	Males	Females	Males	Females	Males	Females
Accountancy	20	5	289	10	309	15
Applied Chemistry ..	..	..	68	1	68	1
Architecture	50	2	17	1	67	3
Art—Fine	9	31	5	21	14	52
Graphic	10	20	..	..	10	20
Teachers	21	44	..	..	21	44
Business Administration	..	..	25	..	25	..
Dental Nursing .. ..	..	28	..	..	..	28
Engineering—						
Civil .. ..	..	..	73	..	73	..
Electrical .. ..	..	..	52	..	52	..
Mechanical	1	..	54	..	55	..
Librarianship .. ..	..	..	3	28	3	28
Medical Laboratory ..	..	..	18	13	18	13
Metallurgy	4	..	23	1	27	1
Music	8	21	4	4	12	25
School Music .. ..	..	13	..	1	..	14
Pharmacy	14	15	4	3	18	18
Public Administration ..	..	..	58	..	58	..
Quantity Surveying ..	..	..	2	..	2	..
Radiography .. ..	..	..	2	13	2	13
Town and Country Planning .. ..	..	..	2	..	2	..
Valuation .. ..	..	..	30	1	30	1
Total	137	179	729	97	866	276

(a) Excludes enrolments at Hobart Teachers College.

The next table shows student enrolments for a three-year period:

Advanced Education: Enrolments (a)
(Number)

Description	1969			1970			1971		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Full-time ..	81	137	218	93	145	238	137	179	316
Part-time ..	791	136	927	785	117	902	729	97	826
Total ..	872	273	1,145	878	262	1,140	866	276	1,142

(a) Excludes enrolments at Hobart Teachers College.

University of Tasmania

History

The University of Tasmania was founded in 1890 and was the fourth to be established in Australia. When teaching began in 1893 with three lecturers and six students it occupied four acres of land on the Queen's Domain at Hobart.

Growth of the University was slow for the first half century despite the State's progressive policy in education generally. The Faculties of Arts, Science and Law were established first with Commerce added in 1919 and Engineering in 1922. At the outbreak of World War II, the teaching staff in many departments consisted of one full-time professor or lecturer, possibly with part-time assistants.

After the war, the influx of ex-servicemen filled all Australian universities to capacity and student enrolments in Tasmania rose to 740 in 1947. Financial assistance from both State and Commonwealth Governments enabled the staff to be almost doubled between 1945 and 1950 and energetic research schools developed. A Faculty of Education was established with responsibility for some of the State's teacher training. In 1957 came the Murray Report on the Australian Universities, leading to a significantly increased flow of Commonwealth money into Australian universities. Since 1958 Faculties of Agricultural Science and Medicine have been established.

Government of the University

The governing body of the University is the Council, comprising three members elected by the teaching staff, four by graduates, one by undergraduates and two by the two Houses of Parliament; four members are appointed by the Governor, and three appointed by the Governor on the recommendation of the Council. The Director-General of Education and the chairman and deputy chairman of the Professorial Board are *ex officio* members. The Council is presided over by the Chancellor.

The Vice-Chancellor is the chief academic and executive officer. He presides over the Professorial Board which is the governing body on academic matters. Reporting to the Board are the eight faculties.

Finance

The following table shows the income and expenditure of the University of Tasmania for a three-year period:

University Income and Expenditure (a)
(**\$'000**)

Particulars	1969	1970	1971
INCOME			
Government Grants—			
Commonwealth	1,679	2,043	2,237
State	1,945	2,245	2,516
Student Fees	686	882	1,062
Other (b)	311	331	341
Total	4,621	5,500	6,156
EXPENDITURE			
Teaching and Research	3,327	3,970	4,299
Administration	452	510	600
Libraries	335	397	455
Other (c)	593	720	872
Total	4,707	5,596	6,226

(a) Excludes receipts for capital purposes and capital expenditure.

(b) Includes donations, accommodation fees for halls of residence, etc.

(c) Includes repairs, alterations, rents, power, light, heating, etc.

Staff and Students

The next table shows the courses in which students were enrolled:

University Enrolments, 1971

Course	Students Enrolled			
	New Enrolments 1971	Total Enrolments		
		Males	Females	Total
Master and Doctor Degrees ..	50	168	32	200
Bachelor Degrees—				
Agricultural Science	30	66	19	85
Arts	340	562	624	1,186
Economics	91	321	37	358
Engineering	52	209	1	210
Law	47	159	30	189
Medical Science	} (a) 51 {	3	..	3
Medicine		143	53	196
Science		443	121	564
Total	787	1,906	885	2,791
Non-Degree Courses—				
Education	n.a.	124	130	254
Public Administration	n.a.	13	..	13
Other (b)	n.a.	98	88	186
Total	n.a.	235	218	453
Total All Courses	n.a.	2,309	1,135	3,444

(a) Combined enrolment: students may take an honours degree in Medical Science by adding an extra year to their M.B., B.S., course.

(b) Of the 186 students classified as 'other' 11 students were enrolled for a master degree qualifying examination; the remaining 175 were not proceeding to either a degree or diploma of the University.

The following table shows the number of teaching staff and students in selected years:

University Teaching Staff (Full-Time) and Students Enrolled

Particulars	1945	1966	1967	1968	1969	1970	1971
Teaching Staff—							
Professors	12	26	26	28	30	30	31
Other	31	137	138	141	163	172	189
Total Teachers ..	43	163	164	169	193	202	220
Individual Students Enrolled	503	2,346	2,443	2,592	2,830	3,119	3,444

Degrees Conferred

The following table shows degrees conferred:

University of Tasmania: Degrees Conferred (a)

Degree (b)	1966	1967	1968	1969	1970	1971
B.Agr.Sc. Males	..	5	7	7	11	11
.. .. Females	..	..	1	..	..	..
B.A. Males	64	56	65	88	90	110
.. .. Females	56	87	104	126	119	126
B.Ec. Males	19	26	33	40	48	42
.. .. Females	3	..	2	6	3	4
B.E. Males	13	17	22	28	23	20
.. .. Females	2	..	..	..	..	..
B.Sc. Males	63	50	64	76	92	96
.. .. Females	12	8	12	27	21	25
LL.B. Males	10	17	18	26	14	13
.. .. Females	2	1	1	1	6	7
M.A. Males	2	2	..	2	4	1
.. .. Females	1	1	1	1	3	2
Ph.D. (Science) Males	6	5	9	8	12	12
.. .. Females	..	..	1	..	..	..
M.B., B.S. (c) Males	..	..	..	..	16	14
.. .. Females	..	..	..	..	2	2
M.Sc. Males	1	3	3	6	3	1
.. .. Females	..	..	..	..	..	..
Other Males	4	1	4	6	5	5
.. .. Females	1	..	..	..	..	2
Total Males	182	182	225	287	318	325
.. .. Females	77	97	122	161	154	168

(a) Excluding honorary degrees.

(b) Bachelor degrees include bachelor degrees with honours.

(c) Medical graduates.

Residential Colleges

There are five residential colleges in the University. Christ College was affiliated with the University in 1933, moved to new premises on the University Campus at Sandy Bay in 1962 and provides accommodation in single study-bedrooms for 138 male and female students, eight tutors and a deputy warden. Hytten Hall was opened in 1959 accommodating 124 students. Extensions have raised this figure to 193 male students with 79 accommodated in single study-bedrooms and the remainder in double rooms. St John Fisher College, opened in 1962, accommodates 73 male students in single study-bedrooms and is under the direction of the Catholic Church. Jane Franklin Hall was founded by the Tasmanian Council of Churches in 1950 as a hall of residence for women students. The hall provides accommodation for 150 students. Ena Waite Women's College was founded in 1968 and accommodates 24 female students.

Buildings

The present University site at Sandy Bay was chosen in 1944 and a number of army-type huts was erected to accommodate temporarily the rapidly growing Science departments. The first permanent building at Sandy Bay was occupied in 1957; all departments are now housed in permanent buildings.

Recent construction works include: the Life Sciences extension to house the Department of Zoology, finished in January 1972; the Astronomy building at Mt Rumney completed early 1972; extensions to the Administration and Geology buildings and an Agricultural Science animal house completed in May 1972. Projects expected to be completed during 1972 are the Biomedical Library, staff house and extensions to the Chemistry and Medical Sciences buildings. Construction of a new Law building was well advanced by early 1973.

Technical Education

The Education Department administers Technical Colleges at Hobart, Launceston, Devonport, Burnie and Queenstown which provide trade, technical and sub-professional technician courses. Some students also receive tuition at Rosebery and Smithton using the high school facilities. Technical College courses cater for students who are above the age of compulsory school attendance. Students are generally charged tuition fees to a maximum of \$36 per annum although higher fees do operate for a few special courses. Apprentices receive free training. (Some use of technical college premises is also made by students in professional courses under the College of Advanced Education, as described in a previous section.)

Courses

Technician Courses: These courses, also known as *Certificate Courses*, cater for middle level vocations that lie between trades and the professions. They are designed in consultation with industry to meet the increasing need for technicians and other sub-professional personnel who are performing many tasks previously carried out by university graduates or diplomates. On successful completion of a course, a certificate is awarded by the Education Department. Courses provided include drafting, engineering, commerce, surveying, accounting, advertising, management, business studies, marketing, food service and science.

Trade Courses: These courses combine theoretical and practical aspects of the trade, and are complementary to employer training given to apprentices. From 1965 apprentices have been required to attend one full day per week for three years and this has practically eliminated evening classes for apprentice training. In 1968 a system of block training was introduced for some country apprentices previously taught by correspondence. During the year, periods of two weeks are spent in full-time study in a technical college. This system has been extended to other trades and will be expanded further. On successful completion of the course, a Certificate of Trade Proficiency is awarded. Post-trade courses are available to extend the skill and knowledge of the tradesmen.

Correspondence Tuition: This is administered through the Hobart Technical College and is intended for isolated students. Many apprentice correspondence courses have been replaced by the system of block training.

Enrolments

In 1971 control of the School of Art and the Conservatorium of Music passed to the Tasmanian College of Advanced Education. Enrolments in Diploma courses in 1971 which were still to be transferred to the Tasmanian College of Advanced Education were 123 full-time and 905 part-time students. The remaining 6,849 enrolments were in sub-professional technician and certificate courses and in trade and post-trade classes. Enrolment distribution was: Hobart Technical College, 57 per cent of total enrolments; Launceston, 24 per cent; Burnie, 10 per cent; and Devonport Technical College, nine per cent. Distribution of persons enrolled between courses was: trade and post-trade courses, 44 per cent of total enrolments; certificate and post-certificate courses, 36 per cent; diploma and post-diploma courses, 13 per cent; and miscellaneous subjects, seven per cent. Of the total number of students enrolled 76 per cent were males.

College Councils

Each technical college has a council comprising local community representatives who have been appointed by the Governor. Members are drawn from trades and industries, professions and municipal councils. They advise the Director of Technical Education on the provision and development of college facilities and courses.

Examinations

These are conducted by the Education Department in November each year and supplementary examinations are held in December. Papers are set and marked, or assessments carried out, by outside examiners. In 1967 first-year apprentice examinations were conducted internally; this was extended to second-year level in 1968.

Technical Teachers, Students and Expenditure

The following table shows the number of schools, teachers and students in technical education and the yearly expenditure:

Technical Education: Teachers, Students and Expenditure

Particulars	1967	1968	1969	1970	1971 (a)
Schools, Colleges, etc. no.	10	9	9	9	7
Teachers—Full-time . . no.	173	181	186	199	189
Part-time no.	614	710	627	676	565
Students, Aggregate (b) no.	8,200	8,296	8,336	8,278	6,849
Expenditure (c) . . \$'000	1,044	1,375	1,764	2,025	2,366

(a) Excludes details for: (i) School of Art and Conservatorium of Music; and (ii) diploma courses provided as a part of the advanced education system.

(b) Gross number enrolled during the year.

(c) Excludes capital expenditure on new buildings, etc.

Adult Education*Origin and Organisation*

Establishment of a mechanics' institute in Hobart in 1827 was the start of adult education in Australia. The mechanics' institute movement which was then just three years old (there were only two other institutes at that time: in London and Glasgow) was the fore-runner of the present adult education organisation in Tasmania which began in 1914. One part-time tutor was appointed and three classes started in 1914 with support for the new system coming from the University of Tasmania and the Workers' Educational Association. Financial assistance was given by the State Government.

The present Adult Education Board was established under the *Adult Education Act* 1948. The Board has nine members. Three of these are nominated by the Minister for Education and one each nominated by: University of Tasmania; the State Library Board; the Workers' Educational Association; the Arts Council; the Australian Broadcasting Commission; and the Education Department. In addition the Board has a Director and nine professional officers (five of them in charge of administrative areas designated 'regions').

Hobart has three adult education centres, in the central city, at South Hobart and at North Hobart; Launceston has two centres, while Devonport and Burnie each have one. 'The Grange', a National Trust home at Campbell Town (south of Launceston), is the Board's residential college.

Operations

Courses: The year is divided into autumn, winter and spring terms and classes are usually organised into 10-session courses lasting one term. Some courses, such as those for languages, continue through three terms and short courses, lasting three to five sessions, are arranged to meet specific needs, such as preparing income tax returns, investment or preparing for examinations. The 815 courses offered in 1971 attracted 10,400 students and required 325 part-time tutors. Subjects included art, zoology, philosophy, psychology, languages, music, shorthand, communication and basic literacy. The Board, in co-operation with the University of Tasmania, arranges courses in Launceston for external students, and in conjunction with the Commonwealth Department of Immigration, courses in Intensive Advanced English for migrants are run in Hobart.

Lectures: Visitors from other States and overseas deliver lectures during each year. One of the most important events of the Adult Education year is the Sir John Morris Memorial Lecture. (Each year an Australian who has achieved world stature in a particular field is invited to deliver this lecture, instituted by the Adult Education Board as a memorial to Sir John Morris, its first chairman, who died in 1956.)

Residential School: The Grange residential college has been leased from the National Trust since 1964. Built in 1847, The Grange is an elegant colonial country house used for both week-end schools throughout the year and week-long summer schools during the Christmas-New Year vacation. The house offers accommodation for 27 students.

Drama: Assistance is given to more than 30 amateur drama groups throughout the State to assist in raising standards of acting and production.

Book Discussion Groups: Nearly 50 of these groups throughout the State meet regularly each month to discuss specially chosen books, mainly novels.

The following table shows the annual receipts and expenditure on selected items for a five-year period:

Adult Education: Selected Receipts and Expenditure
(Source: Annual Reports of the Auditor-General)
(\$)

Item	1966-67	1967-68	1968-69	1969-70	1970-71 <i>p</i>
RECEIPTS					
State Government Grant ..	122,000	145,000	148,000	158,000	183,700
Student Fees	38,694	46,333	50,189	55,074	64,029
Concert Tours, Film Screen- ings, Lectures, etc. ..	15,742	24,790	18,077	35,751	21,116
Other	1,885	2,569	3,349	4,717	2,990
Total	178,321	218,692	219,615	253,542	271,835
EXPENDITURE					
Salaries	86,885	101,917	104,781	109,788	134,591
Tutors' Fees, Allowances ..	35,880	41,458	45,304	50,304	53,912
General Administration ..	28,101	34,926	34,832	45,314	34,293
Schools, Seminars and Ex- hibitions	22,476	16,707	22,130	15,017	18,813
Visiting Artists	445	11,354	1,739	12,997	14,326
Other	11,174	12,332	9,922	9,914	19,251
Total	184,961	218,694	218,708	243,334	275,186

Commonwealth Activities in Education

Introduction

Traditionally education has been a concern of the States; however, in 1945 a Commonwealth Office of Education was established and a branch was opened in Hobart. The principal functions of the Tasmanian branch were migrant education and administration of Commonwealth University Scholarships. In 1951 the Hobart office was closed, and its functions transferred to the State, which acted as an agent for the Commonwealth. A growing commitment by the Commonwealth to education led to a re-opening of the Hobart office in 1964. However, despite increased Commonwealth financial assistance to educational institutions and students, education remains primarily the responsibility of the State Government.

Commonwealth activities in education include grants for universities, colleges of advanced education, teachers colleges, technical training, science and library facilities at government and non-government secondary schools, per-capita grants to non-government schools and assistance for research. Commonwealth Scholarship Schemes provide assistance for students undertaking secondary, technical, tertiary and post-graduate studies. Two schemes of assistance for Aboriginal students are financed from the Aboriginal Advancement Trust Account.

The Commonwealth grants to universities and colleges of advanced education are made in accordance with Commonwealth-State matching formulae involving agreed expenditure by the States. The Commonwealth acts alone in the matter of grants for: (i) the construction of teachers colleges, provided that 10 per cent of available places are filled by students not bonded to State education departments; (ii) technical training facilities; (iii) science facilities; (iv) school library facilities; and (v) pre-school teacher training facilities.

The following table shows the amounts paid by the Commonwealth Government for education in Tasmania over a three-year period:

Commonwealth Payments for Education in Tasmania
(\$'000)

Particulars	1968-69	1969-70	1970-71
RECURRENT EXPENDITURE			
Universities	1,315	1,504	1,818
Colleges of Advanced Education	222	397	754
Research Grants	194	182	202
Aboriginal Advancement .. .. .	..	7	7
Per Capita Grants, Non-Government Schools .. .. .	..	286	556
Total	1,731	2,376	3,337
CAPITAL EXPENDITURE (a)			
Universities	902	757	429
Colleges of Advanced Education	69	677	514
Teachers Colleges—Primary and Secondary	960	250	100
Pre-School	100	120	..
Science Laboratories—Government Schools	235	82	390
Non-Government Schools	174	174	174
Technical Training	275	376	325
School Libraries—Government Schools	72	65	355
Non-Government Schools .. .. .	..	74	125
Total	2,787	2,575	2,412

Commonwealth Payments for Education in Tasmania—continued
(\\$'000)

Particulars	1968-69	1969-70	1970-71
SCHOLARSHIP ALLOWANCES (a)			
Commonwealth Scholarships—Post-Graduate	77	97	114
University	411	555	694
Advanced Education	20	43	49
Secondary	r 177	r 190	187
Technical	30	33	28
Soldiers' Children Education Scheme (b)	128	141	152
Aboriginal Secondary School Grants .. ..	..	..	6
Aboriginal Study Grants .. ..	..	1	4
Total	r 843	r 1,060	1,234
TOTAL EXPENDITURE			
All Items	r 5,361	r 6,011	6,983

(a) Excludes grants made under the Commonwealth Child Migrant Education Programme which are not available on a State basis.

(b) Includes payments to eligible children before their admission to the scheme as reimbursement for books, school requisites and fares.

University of Tasmania

In the triennium 1970-1972, proposed Commonwealth payments to the University of Tasmania were \$7.58m, comprising \$1.88m for capital costs, \$5.57m for recurrent expenditure and \$125,000 in special grants.

Colleges of Advanced Education

In the triennium 1970-1972 Commonwealth grants available for advanced education were \$5.62m comprising \$3.25m for capital costs, \$2.36m for recurrent expenditure and \$12,000 for library materials. The major Tasmanian project is the construction of a College of Advanced Education at Mt Nelson which was commenced in 1969 and opened in 1972. The College controls all diploma courses at the Hobart, Launceston and Burnie Technical Colleges and the Tasmanian School of Art and the Tasmanian Conservatorium of Music.

Technical Training Facilities

Commonwealth grants are made to extend and improve facilities for training apprentices and technicians. During the triennium 1971-72 to 1973-74 annual grants of \$380,000 are being made to Tasmania.

Science Facilities

Commonwealth grants have been made since July 1964 to assist in the construction and equipping of science teaching facilities in government and non-government schools. The total planned distribution for the four years ending 30 June 1975 is: government schools \$990,660; and non-government schools, \$668,630.

Teachers Colleges and Pre-School Teacher Education

The scheme of unmatched grants for construction and equipping of teachers colleges has been extended to June 1973 and Tasmania will receive a further \$1m under the scheme for facilities at Launceston Teachers College (\$1.5m was provided by the Commonwealth for construction of the College).

As the Tasmanian Government assumes responsibility for pre-school teacher training the Federal Government has granted the State \$220,000 for this purpose. The grant will be used to provide pre-school teacher education facilities at Launceston Teachers College.

Research Projects

In May 1965 the Australian Research Grants Committee was established to advise the Commonwealth Government on the granting of money for research projects. In 1966 the Commonwealth and State Governments each allocated \$2m (a total of \$4m) for Australian research projects. Because the States decided not to make further contributions, the Commonwealth made \$9,471,000 available in the 1967-1969 triennium and \$13,255,000 in the 1970-1972 triennium.

Research grants awarded to the University of Tasmania are as follows: 1967, \$148,552; 1968, \$226,000; 1969, \$163,000; 1970, \$155,000; 1971, \$166,000; 1972, \$178,000.

Secondary School Libraries

In August 1968, the Commonwealth commenced a programme which provided \$27m in the 1969-1971 triennium for the development of Australian secondary school libraries. The funds were available for: (i) the erection, alteration or extension of library buildings; and (ii) the provision of furniture, equipment and a basic stock of books and instructional materials. The allocation for Tasmania for each year of the 1969-1971 triennium was \$290,900 comprising: (i) government schools \$216,200; (ii) Catholic schools \$43,200; and (iii) other non-government schools \$31,500.

In December 1971 the secondary school libraries scheme was extended for a further three years (from 1 January 1972 to 31 December 1974). Funds available for the period are \$30m, and Tasmania's annual allocation is \$352,241 comprising: (i) government schools, \$285,506; (ii) Catholic schools, \$48,462; and (iii) other non-government schools, \$18,273. The Commonwealth is also making grants available for the training of school librarians. The funds are advanced to State education departments, school library associations and similar organisations.

Lady Gowrie Child Centre

This pre-school centre in Hobart was established in 1940 by the Commonwealth as one of a group of six Centres in all States. The Lady Gowrie Child Centres were planned to give stimulus to progress in the field of child development. They provide opportunities for demonstrations and research based on early childhood education. The Hobart Centre enrolls children aged from three to six years and is used for observation by education, medicine, psychology, home science and nursing students.

Per Capita Grants to Independent Schools

From the beginning of the 1970 school year, the Commonwealth has provided per capita grants to independent schools throughout Australia, including special schools for the handicapped; rates are \$50 for each primary student and \$68 for each secondary student. Expenditure in Tasmania in the 1971 school year was \$555,200.

Curriculum Development

Tasmania is participating in the Australian Science Education Project which evolved from the earlier Junior Secondary Science Project. It is the first national curriculum project to be established in Australia under government sponsorship and is financed by contributions from the Commonwealth Government (through the Department of Education and Science) and from all State education departments. Over a five-year period, commencing 1968-69, the Commonwealth will provide \$750,000 and the States, \$450,000.

Migrant Education

Under the Child Migrant Education Programme, which commenced in April 1970, the Commonwealth is financing the following items over a five-year period for both government and non-government schools:

- (i) the salary costs of teachers employed to teach migrant children in special classes and the necessary supervisory staff;
- (ii) special training courses for teachers in the methods of teaching English as a foreign language;
- (iii) the provision of approved capital equipment for special classes; and
- (iv) the provision of suitable learning and teaching materials.

For children from Tasmanian government schools, full-time centres have been established in Hobart and Launceston, with part-time centres at George Town, Queenstown, Rosebery, Strathgordon and Burnie. One non-government school in Launceston also has special classes for migrant children. Special courses for teachers employed in this work have been provided at Melbourne and Launceston.

Commonwealth Scholarship Schemes

The Commonwealth Government makes payments to students under the following five Commonwealth Scholarship Schemes:

Commonwealth University Scholarship Scheme: This scheme provides assistance to students taking approved degree courses at an Australian university. Selection is based upon results obtained in Tasmania in the Higher School Certificate examination or in an approved degree course. In Tasmania, approximately 380 awards were made in 1972. Benefits include the payment of all compulsory fees and, subject to a means test, a living allowance of up to \$700 per annum for a student living with his parents, or up to \$1,000 for a student living away from home.

Commonwealth Advanced Education Scholarship Scheme: Under this scheme assistance is provided to those taking approved tertiary level courses in Australia. Selection in Tasmania is based on results obtained in the Higher School Certificate examination in an approved course or in some cases on other criteria determined by individual institutions. Approximately 125 awards were made in Tasmania in 1972. Benefits are the same as those payable under the Commonwealth University Scholarship Scheme. Under both schemes, a guidance service is provided by the Commonwealth Department of Education and Science.

Commonwealth Secondary Scholarship Scheme: Each year approximately 315 Tasmanian secondary school students are awarded a two-year scholarship to assist them with study for the Higher School Certificate examination. Annual scholarship benefits comprise a \$200 living allowance and a textbook allowance of \$50, both free of means test, and reimbursement of compulsory school and examination fees up to a maximum of \$150.

Commonwealth Technical Scholarship Scheme: An annual quota of approximately 80 scholarships is available to Tasmanian students to assist them with approved full-time or part-time courses, mainly at certificate or technical level and in approved full-time diploma courses in art, music and agriculture. Benefits for full-time students are the same as for secondary scholarships. Part-time students receive \$100 per annum plus payment of compulsory fees up to \$100.

Commonwealth Post-Graduate Awards: Awards are made annually to enable students to undertake post-graduate studies at an Australian university. In 1972 16 new awards were made available for research studies. Selection is made by each university and the award, subject to annual renewal, may be held for a maximum of: (i) four years in the case of a doctorate degree candidate; (ii) two years in the case of a master degree scholar; and (iii) for the duration of the course taken (normally one or two years) for course work awards. Award holders receive a living allowance of \$2,600 per annum and provision is made for assistance with travel, establishment and thesis costs. Married male scholars receive a dependant's allowance for wife and children.

Aboriginal Grants Schemes: The Department of Education and Science administers, on behalf of the office of Aboriginal Affairs, two assistance schemes for students of Aboriginal descent: (i) the Aboriginal Study Grants Scheme; and (ii) the Aboriginal Secondary Grants Scheme.

Aboriginal Study Grants were first awarded in 1969. They assist Aborigines to take study courses after leaving school and provide the full-time student with fees, a living allowance of \$1,100 a year and other allowances. Part-time students receive fees and incidental expenses.

The Aboriginal Secondary Grants Scheme, introduced in 1970, assists students to continue schooling beyond the age of 14. Benefits cover annual living costs, fees and other allowances.

Students in Commonwealth Scholarship Schemes: The next table shows the number of students holding each type of Commonwealth Scholarship in Tasmania at 30 June:

Number of Students at 30 June: Commonwealth Scholarship Schemes

Particulars	1968	1969	1970	1971	1972
University	554	627	788	865	916
Advanced Education ..	85	106	150	174	220
Technical	123	137	145	124	97
Secondary	567	544	558	559	560
Post-Graduate	32	33	38	46	52
Aboriginal Secondary ..	..	..	3	8	32
Aboriginal Study .. ..	..	..	2	1	3
Total	1,361	1,447	1,684	1,777	1,880

International Scholarship Schemes

Students come to Australia to study under a variety of schemes, e.g. the Colombo Plan, the Special Commonwealth African Assistance Plan, the Australian International Award Scheme, the South Pacific Aid Programme, SEATO, UNESCO, Commonwealth Co-operation in Education, etc.

The number of sponsored students receiving training in Tasmanian educational institutions is shown in the table below. Training is arranged, usually on a full-time basis, with the University of Tasmania, the Tasmanian Education Department, non-government schools, government departments, and industry. In addition to long-term sponsored students, short-term visitors have also been brought to the State for periods of up to one year, for specialised experience in educational, industrial, commercial, technical, or scientific fields. From 1965 to June 1972, 343 short-term visitors of this type came to Tasmania.

The Department of Education and Science arranges reception, accommodation, travel and payment of allowances for all sponsored students and also makes arrangements for their training. Professional guidance on academic matters is provided by education officers for all overseas students, both sponsored and private.

Sponsored Training Statistics: The majority of full-time sponsored students, as the next table shows, come to Tasmania under the Colombo Plan:

Number of Full-Time Sponsored Students

Scheme	1967	1968	1969	1970	1971	1972
Colombo Plan	101	106	79	87	101	100
Home Government Sponsored (Malaysia) ..	..	4	8	13	12	8
M.A.R.A. (Malaysia) ..	..	5	8	11	15	23
Other	4	4	8	3	3	3
Total	105	119	103	114	131	134

Enrolment: In 1972 117 full-time *sponsored* students were enrolled at the University of Tasmania, 14 students were studying for the Higher School Certificate and three are enrolled in various other courses. The most popular bachelor degree courses for sponsored students in 1972 were: Engineering, 46; Science and Medicine, 13 each; Agricultural Science, 11.

Other Scholarship Schemes

The Department of Education and Science plays a role in the administration of the following scholarship schemes: Queen Elizabeth II Fellowships; ANZAC Fellowships; Australian Agricultural Council Scholarships; Australian-American Education Foundation Awards; Confederation of British Industry Scholarships; and various scholarships offered to Australians by overseas governments.

STATE LIBRARY OF TASMANIA

General

The present State Library Service dates from the *Libraries Act* 1943. This legislation made provision for: (i) establishment of a State Library; (ii) constitution of a Tasmanian Library Board which would be responsible for management and development of library services in the State; and (iii) co-ordination of various library services then subsidised by the State Government. The system now has major libraries in three centres: Hobart, location of the principal library and headquarters for the library service; Launceston; and Burnie. In addition branch libraries are located in a number of smaller towns.

The next table gives selected statistics for the State Library of Tasmania:

State Library of Tasmania: Selected Statistics

Particulars	1967-68	1968-69	1969-70	1970-71	1971-72
EXPENDITURE (\$'000)					
Salaries and Pay-Roll Tax ..	311	351	401	483	573
Purchase of Books, etc. for					
Adults	166	153	174	208	235
Lady Clark Library ..	27	38	35	49	69
Grants to Municipalities ..	37	39	44	55	29
Other	76	78	84	101	104
Total Expenditure ..	617	660	737	896	1,011
BORROWINGS: BOOKS, FILMS AND RECORDS ('000)					
Books Borrowed—					
Adults	2,038	2,147	2,163	2,260	2,317
Children	1,150	1,170	1,206	1,240	1,390
Total	3,189	3,317	3,369	3,500	3,706
Films Borrowed	13	12	12	17	13
Records Borrowed	27	30	37	49	51

At 30 June 1972 the State Library's bookstock was 832,000 volumes comprising books, journals, pamphlets, historic documents, etc.

Receipts

An annual appropriation is made from the Consolidated Revenue Fund to cover the operational expenses of the State Library. The 1971-72 vote was \$1,011,000. (A further \$22,000 was received from Consolidated Revenue to cover expenses incurred in the acceptance of the Allport Bequest.) The next main revenue source is local government contributions. Local Government authorities, receiving library services from the State Library, levy a rate and pay a contribution into the State Library Board Account. Receipts from this source for 1971-72 were \$166,000 including \$48,000 paid by Hobart, \$30,000 by Launceston and \$24,000 by Glenorchy.

Organisation

Currently library services are administered from three centres (Hobart, Launceston and Burnie). The following sections outline the facilities provided from each centre.

Hobart

Hobart, headquarters of the State Library, is the location for the following major State Library departments:

State Reference Library: Provides reference and information facilities for the general public and industry, and contains a bookstock of approximately 142,500 books, periodicals, pamphlets, maps, etc. Special sections of this Department house unique collections of books, documents, etc. relating to Tasmania. Collections include: (i) the *Tasmanian Collection*—a definitive collection of books published in Tasmania; (ii) the *W. E. Crowther Library*—a large research collection of books, pamphlets and other items relating to Tasmania and Australia; and (iii) the *Allport Library and Museum of Fine Arts*—comprises a collection of antique furniture, china, glass, silver, pictures, prints and rare books in fine editions.

Archives Office: The *Archives Act* 1965 made this library department the official repository for all official State Government records. A considerable quantity of private records of individuals, companies, associations, societies and institutions is held as well as official records. Recently the State Library acquired a large collection of glass plate negatives relating to the period 1905-1914, and photographed by the late Charles Davis. This collection is housed in Archives.

Hobart Lending Library: Provides a book lending service for adults and children. Approximately 106,000 volumes are held in this collection.

Films and Recorded Music Library: Contains over 4,500 films and almost 16,000 gramophone records. Films and records are available for borrowing by individuals or organisations.

Division of External Services: This Department co-ordinates the provision and development of public library services throughout the State.

In 1972 the second stage of the State Library building complex was completed. The new 11-floor building permits centralisation of Library activities and created additional storage capacity.

Launceston

Headquarters of the Northern Regional Library Service are located at the new Launceston regional library building which was opened in mid-1971. The Northern Regional Library Service serves the City of Launceston and the Municipalities of Beaconsfield, Deloraine, Evandale, George Town, Lilydale, Longford, St Leonards, Scottsdale and Westbury. Twelve branch libraries are located in small towns of the region; rural areas are served by two bookmobiles.

Burnie

The Hellyer Regional Library Service comprises the Municipalities of Burnie, Circular Head, Penguin, Waratah and Wynyard and was inaugurated in 1965. A central library for the regional service is located at Burnie. Reference, lending, bookmobile and external services are provided for the region. Plans are being prepared for construction of a new regional library building at Burnie.

THE THEATRE ROYAL

The Beginnings

Hobart's first drama, *The Married Bachelor*, was staged on Christmas Eve 1833 at the Freemason's Tavern on the corner of Harrington and Davey Streets. Mr and Mrs Samson Cameron were responsible for taking this step which ultimately led to the building of Hobart's first theatre, the Theatre Royal. Theatre provided essential entertainment sadly lacking in the small penal colony in the early settlement period. However, there were some who opposed the infant drama group—a congregational minister feared that stage acting would debauch both the minds and morals of Hobart's citizens. In 1834 the next development in the growth of the theatre occurred when John Mezger included in his public house, at the corner of Argyle and Liverpool Streets, a 'beautiful little theatre', the Argyle Rooms. Mezger's interest in the stage was sponsored, to a degree, by the thought of the added profits which the theatre would yield.

The growing interest in theatre entertainment also led a group of Hobart's leading personalities to combine and form a company to promote the construction of a proper theatre. Sponsors of the project included Mezger, builder and owner of the Argyle Rooms, John Burnett, Colonial Secretary, Anthony Fenn Kemp, a leading Hobart merchant-seller, Peter Degraives, founder of the Cascade Brewery, and a number of other leading citizens. Each agreed to contribute share capital to the sum of £20 to finance the project. J. M. Wilson (later Sir James Wilson) was appointed secretary of the infant theatre company.

The Campbell Street site was purchased for £280. The block had a frontage of 50 feet and was approximately 116 feet deep. The stage was now set for construction of the theatre. The successful tenderers, at £2,300, were Peter Degraives, founder of the historic Cascade Brewery and a colonial ship-builder of some repute, and his son Henry. They, in fact, lent the greater part of the money required.

Theatre Royal

On 4 November 1834 J. L. Archer, Colonial Engineer, laid the foundation stone of what was to become the Theatre Royal. It was a moment for rejoicing—the regimental band played, ships in the Harbour displayed their colours and those equipped with cannon fired with a will, while a crowd of a thousand people lent their acclaim. Archer laid the stone and expressed his high aspirations for the theatre: 'I hope to see the Theatre Royal of Van Diemen's Land flourish like a palm tree by the riverside and dispersing those intellectual joys and domestic virtues that raise us to the highest attainment'.

However, despite Archer's eloquently expressed hopes for the theatre, all did not progress smoothly. Critics, notably the journalists R. L. Murray and Henry Melville, decried the project as extravagant and claimed that Hobart already had sufficient live theatre. The building continued but in 1836 economic recession struck Hobart and Degraives, who had not received payment from the defaulting shareholders, ceased work. An appeal to all shareholders yielded £700 which proved sufficient to induce Degraives to continue with the task. In 1837 the building was completed and on 17 January 1837 the first function, a farewell to Kenneth Snodgrass, administrator in the interim between Colonel George Arthur and Sir John Franklin, was held in Hobart's new edifice.

The completed building was of some eminence—50' × 100', the walls were 34 feet high and two to three feet thick, the building was well timbered and braced with iron. Obviously Degraives intended that Hobart's theatre should stand for a considerable time. Each of the side-walls had two tiers of windows, the front door opened to the saloon and from there one proceeded to the boxes. On the Collins Street side stairs ran from the basement to a door which led to the back of the pit. It was truly a building that the small town could be proud of.

Accommodation was provided for 600 persons. Those who could afford the luxury of a box could choose between boxes in the wings (four in each wing) and another group of boxes placed higher at the back of the auditorium. The benches in the boxes were padded in red. The pit floor was stepped downwards and the benches there were unpadded.

The stage, a work of craftsmanship where few if any nails were used, was 45 feet wide and 40 feet deep. It occupied almost half of the theatre and had 11 traps. Stage machinery was installed by John Belmore.

The basements were large and housed service and dressing rooms: 'commodious, and arranged with a decorous view to the due separation of the sexes . . .' said Degraves. Some of the rooms led only into the pit from where the actors climbed onto the stage.

The crowning glory of the building was a domed ceiling which required no supporting pillars. The dome was nicely decorated: 'highly ornamented with the fern tree leaf, radiating from the ventilating opening and pointing towards the outer circle of the dome, which is a rich scroll border of crimson and gold three feet six wide'.

The theatre was lit by oil, although Degraves left space for a gasometer. It was another 20 years before piped gas came to Hobart and the Theatre Royal.

Completion of the building required appointment of a manager for the theatre. Shareholders conferred and agreed that Samson Cameron should have the honour of being the Theatre's first lessee. It cost him £300 for the lease and the promise to spend a further £300 on scenery and fittings. As no legislation existed in the young colony for the control of live theatre, the shareholders claimed the right to fine Cameron five shillings for every drunk or rowdy person disturbing the peace within the theatre. Belmore was appointed theatre mechanist.

On 6 March 1837 the grand opening of the theatre took place. Again the regimental band provided music for the historic occasion and two plays were presented—*Speed the Plough* and *The Spoiled Child*. The opening, by all accounts, was well attended.

In April 1837 Meredith, who provided theatre entertainment from the Argyle Rooms, was forced to combine with Cameron and the 'new theatre' formally took the title Victorian Theatre (the title Theatre Royal was adopted later). It was now the focal point for live theatre in Hobart. However, antagonism continued to exist between the two principals; Meredith was more popular with the pit audience while Cameron derived his support from the boxes.

Plays ranged from high drama to one piece musicals. Cost of a seat in the boxes was from four to six shillings while a seat could be had in the gallery for two or three shillings. However, prices were high in terms of current wages and by May 1837 the proprietors had lost £100. To boost profits a public house was opened in the basement and Meredith became the first licensee. In August 1838 the licence was taken over by Belmore. The venture did not prove profitable; the underground location and competition from numerous other taverns forced closure of the basement public house in 1840.

Degraves waited patiently for payment. It was not forthcoming, and in 1838 he claimed on the shareholders for £2,451-7-10 which was still owed to him. The shareholders were reluctant or unable to pay and an equally reluctant Degraves was forced to accept title to the theatre as payment of the debt. He offered it for sale on many occasions but found no buyers; it remained his property until he died in 1853. Following Degraves' death the theatre was put up for auction and Richard Lewis purchased the building for £3,222. Lewis leased his newly acquired property to F. B. Watson and John Davies (a former actor, publican and journalist). In 1856 Lewis and Davies carried out extensive reconstruction—the present facade was added, a new gallery (reached by a spiral staircase) was built, the dress circle was recast and the basement cleaned and modernised. In April 1857 gas lighting replaced oil lighting (the Theatre Royal was one of the Hobart Gas Company's first consumers).

The Lewis family retained ownership of the Theatre Royal until 1889 when it was sold for £4,000 to three distinguished Hobart businessmen—C. J. and David Barclay and C. E. Davies. The new owners carried out extensive remodelling and reconstruction. The building was rebuilt at the rear and the stage extended making it 47 feet by 52 feet. The characteristic hump was built into the structure to give extra height to the roof; the floor was also reconstructed (it became inclined rather than stepped). This made much of the old basement unusable. New dressing rooms were included under the reconstructed stage and a proper orchestra pit built.

A new staircase graced the front entrance and new furnishings and redecoration of the interior completed the renovations. In the words of a contemporary scribe 'The decorations throughout are in the Grecian style, which lends itself so well to lightness, freedom, and variety. The gracefully curved front of the dress circle has a ground tint of turquoise blue, on which, in raised mouldings, are broad acanthus leaves in white and gold. Brighter and more striking tints are introduced in the upper portions of the walls and ceiling, with here and there bright bands of gold and floral decorations, but the whole effect is chaste and artistic'. The architect for the work was George Fagg. The theatre re-opened in October 1890 but the renovations did not lead to the expected increase in audiences.

In 1911 and 1912 further rebuilding, which gave us the Theatre Royal substantially as it is today, took place. This final major reconstruction eliminated the last of Degraives' architecture from the Theatre's interior—the only remaining vestiges of his work being the outer shell and the foundations. An upper foyer (to provide cloak rooms) was added, the front door widened, the Sackville Street entrance closed and the gallery and dress circle reconstructed. Electricity replaced gas for lighting purposes. Accommodation was arranged to provide for some 1,200 persons: 500 in the gallery; 450 in the stalls; and 250 in the dress circle. As a part of the redecoration the portraits of ten famous composers (Schumann, Verdi, Mozart, Beethoven, Wagner, Haydn, Gounod, Brahms, Handel and Myerbeer) were painted on the central dome. Chief architect for this latest reconstruction was W. Pitt from Melbourne.

On 13 January 1912 a grand re-opening was held; the Governor, Sir Harry Barron, and his Lady attended to see Eva Moore take the lead in *The Merry Widow*.

In 1921 C. E. Davies died and the theatre was disposed of for \$16,000 to a private owner. In 1923, the Theatre Royal Company bought the Theatre for \$24,000. Progress was far from buoyant and in the early 1940s the Theatre's future was shrouded in doubt. Competition from wireless and the cinema were crippling the Theatre—audiences were small, receipts low and expenses heavy. Among the less artistic proposals for the building was one that the historic Theatre should be used as a wool shed. The City Council then mooted a traffic plan which would have re-routed the streets through the theatre site. However, happily for theatre in Hobart none of these calamities befell the struggling theatre and in 1947 a Tasmanian branch of the Arts Council of Australia was formed. This branch, led by J. B. Piggott, a Hobart lawyer, was particularly keen to retain the Theatre Royal. In 1948 the Council persuaded the Old Vic Company, which was touring Australia, to visit Hobart and play in the Theatre Royal. Among the Old Vic players were Sir Laurence Olivier and Vivien Leigh. Sir Laurence said at the first curtain call 'We appreciate playing in it not only because it is a beautiful little theatre, it is more than that. Your parents and grandparents have sat here as audiences. Our parents and grandparents have acted on this stage. In the years it has been played in, it has built up atmosphere and the secret of atmosphere is antiquity . . . Don't let it go.' The Old Vic Company plus Sir Laurence Olivier's outspoken praise for the Theatre gave it a much needed boost. The State Government then exhibited interest in preserving the Theatre. In 1949 the *National Theatre and Fine Arts Society Act* was passed to encourage establishment of a national theatre and preservation of the Theatre Royal. The National Theatre and Fine Arts Society of Tasmania (NATFAS) was appointed to succeed the Tasmanian branch of the Arts Council. NATFAS received a grant of \$24,000 to purchase the Theatre Royal. The Theatre was formally handed over to NATFAS in 1950, and in 1951 the State Government agreed to subsidise renovations on a dollar for dollar basis up to \$25,000.

It was then learnt that Princess Elizabeth and the Duke of Edinburgh would attend a command performance while in Hobart. NATFAS decided on immediate renovation. The interior and structure were overhauled—four boxes were built (one up and one down on either wing, the lower ones were removed in 1964), the theatre redecorated and accommodation reduced to 700 to give greater comfort to patrons. High point of the redecoration was installation of a French Empire candelabra hung from the dome. Before re-opening fate struck—George VI died and the Royal Tour was cancelled. The 'gala re-opening' took place but at

normal prices and NATFAS had a fine theatre and a debt of \$53,090. By 1962 this debt had been reduced to \$33,000 and financial support began from the Australian Elizabethan Theatre Trust. In 1964 the State Government discharged the mortgage and increased its subsidy to the Trust.

In 1972 tenders were let by the State Public Works Department for rewiring of the theatre. Rewiring was necessary to bring the building's electrical circuits up to current safety standards. Approximate cost of the project was \$70,000 which was met by the State Government. The stage floodlights were also re-set in a safer location.

Planned Expansions

In the near future the managing body of the Theatre hopes to extend construction at the rear of the theatre onto an adjacent vacant block. The semi-detached wardrobe building would be demolished and new wardrobe facilities incorporated in the extensions. Extensions would also include new dressing rooms, showers (none exist in the present Theatre), storage facilities for scenery and props, a set construction area and rehearsal area. Access would be via the rear of the theatre instead of through the present side door which is both inconvenient and awkward.

Management

The Theatre Royal is the home base of the newly formed Tasmanian Theatre Company. In 1972 productions of the Tasmanian Theatre Company were presented jointly by NATFAS and the Australian Elizabethan Theatre Trust. Staff at the Theatre are responsible for running the Theatre and the affairs of the Tasmanian Theatre Company.

Finance

Under the terms of an agreement between the States, NATFAS and the Australian Elizabethan Theatre Trust, the Trust undertook to meet the basic annual cost of operating the Theatre Royal (estimated at \$6,000) by guaranteeing lettings from the Trust and joint productions sufficient to produce that amount of revenue. If the revenue is less than \$6,000 then the Trust makes good the deficiency to the Society. Other revenue is derived from theatre hire to other theatrical groups, costume hire, etc.

Programmes

Performances range from Shakespearean plays to light entertainment. During 1972, 15 major shows were presented including: the plays *Cash!*, *Major Barbara*, *The Girl in the Freudian Slip* and *Richard II* all by the Tasmanian Theatre Company; the operetta, *The Beggar's Opera* by the Light Opera Company and *La Boheme* by the Tasmanian Opera Company. An annual event is the university revue presented by the university theatre group, the Old Nick Co.

Presentations from outside Tasmania during 1972 included *Behind the Fridge* with Peter Cook and Dudley Moore and personal appearances by Judith Durham and the popular hypnotist, Reveen.

Chapter 15

SOCIAL WELFARE AND HEALTH SERVICES

WELFARE

Introduction

In Australia, the principal social welfare benefits are provided by the Federal Government under the *Social Services Act* 1947, as amended, which is administered by the Commonwealth Department of Social Services. Finance for the benefits is provided from the National Welfare Fund which is augmented each year from the Consolidated Revenue Fund by an amount equal to the payments made.

In this Chapter, the rates of benefits are specified and the conditions governing them are stated in broad outline.

State social welfare which covers child welfare and relief is administered by the State Department of Social Welfare.

Commonwealth Department of Social Services

Commonwealth activity in social services began with the passage of the Federal *Invalid and Old Age Pensions Act* 1909. This and the *Maternity Allowances Act* were administered by the Department of the Treasury until 1941 when the Department of Social Services commenced to function as a separate organisation. Later, the functions of the Department were widened with the passing of the *Child Endowment Act*, the *Widows' Pensions Act* and the *Unemployment and Sickness Benefits Act*. A referendum held in 1946 empowered the Commonwealth to legislate for the provision of certain social services formerly provided by the States. In 1947, a consolidated *Social Services Act* was passed. The Department also administers the *Aged Persons Homes Act* and the *Sheltered Employment (Assistance) Act* and co-operates with the Commonwealth Department of Health in the administration of the *National Health Act*.

The following table shows expenditure in Tasmania from the National Welfare Fund on benefits under the Federal *Social Services Act*. The most noticeable fluctuations occur in expenditure on unemployment benefits.

Commonwealth Social Welfare Services Payments
(£'000)

Benefit or Service	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Age and Invalid Pensions	13,439	14,574	15,414	16,768	19,517	21,835
Widows' Pensions	1,791	1,983	2,125	2,465	2,927	3,327
Aid to Deserted Wives ..	..	..	..	67	77	188
Maternity Allowances ..	243	243	254	267	259	274
Child Endowment (a) ..	6,318	6,912	6,612	6,710	7,416	6,686
Unemployment Benefits..	275	228	264	297	360	366
Sickness Benefits ..	174	190	165	166	199	327
Special Benefits ..	57	47	42	55	68	71
Rehabilitation Service ..	54	60	58	76	91	112
Funeral Benefits ..	33	39	39	42	42	43
Total	22,384	24,276	24,973	26,913	30,956	33,229

(a) In 1966-67 and 1969-70 five twelve-weekly payments, instead of the usual four, were paid.

Social service benefit rates announced at recent budgets are set out in the next table:

Commonwealth Social Service Benefits, 1971-72 and 1972-73
(\$ Per Week Unless Noted as Lump Sum Payment)

Benefit	Maximum Rate		
	1971-72		1972-73
	August Budget	Amending Legislation (April)	August Budget
Age and Invalid Pensions and Sheltered Employment Allowances—			
Single Person (a)	17.25	18.25	20.00
Married Couple (Both Eligible and Living Together), Each ..	15.25	16.00	17.25
Married Couple (Both Eligible but Living Apart Through Ill Health), Each (a)	17.25	18.25	20.00
Married Couple (One Eligible) (a)	17.25	18.25	20.00
Wife (If not a Pensioner) (b)	8.00	8.00	17.25
First Child Under 16 Years (c)	4.50	4.50	4.50
Second and Each Subsequent Child Under 16 Years (c)	4.50	4.50	4.50
Guardian's Allowances—			
Where There is a Child Under 6 Years or an Invalid Child Requiring Full-time Care	6.00	6.00	6.00
Other Cases	4.00	4.00	4.00
Maternity Allowances (d)—			
No Other Children	30.00	30.00	30.00
One or Two Other Children	32.00	32.00	32.00
Three or More Other Children	35.00	35.00	35.00
Multiple Births, Additional Payment for Each Additional Child ..	10.00	10.00	10.00
Child Endowment—			
First Child Under 16 years	0.50	0.50	0.50
Second Child Under 16 Years	1.00	1.00	1.00
Third Child Under 16 Years	2.00	2.00	2.00
Each Other Child Under 16 Years	(e)	(e)	(e)
Student Child Over 16 Years and Under 21 Years	1.50	1.50	1.50
Widows' Pensions (a)—			
Class A, Widows with Dependent Children	17.25	18.25	20.00
Mothers' Allowances—			
Where There is a Child Under 6 Years or an Invalid Child Requiring Full-time Care	6.00	6.00	6.00
Other Cases	4.00	4.00	4.00
First Child Under 16 Years (c)	4.50	4.50	4.50
Second and Each Subsequent Child Under 16 Years (c)	4.50	4.50	4.50
Class B, Widows Aged 50 Years or More (f)	15.25	16.00	17.25
Class C, Widows Under 50 Years of Age in Necessitous Circumstances (g)	15.25	16.00	17.25
Funeral Benefits (b)	(d)40.00	(d)40.00	(d)40.00
Unemployment and Short-term Sickness Benefits—			
Adult or Married Minor	10.00	17.00	17.00
Spouse	8.00	8.00	8.00
First Child Under 16 Years	4.50	4.50	4.50
Second and Each Subsequent Child Under 16 Years	4.50	4.50	4.50
Person 16 and Under 18 Years	4.50	7.50	7.50
Person 18 and Under 21 Years	6.00	11.00	11.00
Long-term Sickness Benefits (i)—			
Adult or Married Minor	17.25	18.25	20.00
Spouse	8.00	8.00	8.00
First Child Under 16 Years	4.50	4.50	4.50
Second and Each Subsequent Child Under 16 Years	4.50	4.50	4.50
Person 16 and Under 21 Years	11.25	12.00	13.00
Rehabilitation Service	(j)	(j)	(j)
Personal Care Subsidy (k)	5.00	5.00	5.00

(a) Supplementary assistance at a maximum rate of \$4.00 a week is payable, subject to the payment of rent and to a means test, to single age and invalid pensioners, to a married pensioner whose spouse is not a pensioner, to either or both of a married pensioner couple who, because of illness or infirmity, cannot live together in a

matrimonial home, and to widow pensioners. Supplementary assistance may also be paid to recipients of sheltered employment allowances and to married pensioner couples paying rent, payment being made on the basis of half to each partner.

- (b) Wife's pension is payable, subject to a means test, to a non-pensioner wife.
- (c) A child is treated for pension purposes as being under 16 years or until he attains 21 years of age if he is a full-time student and dependent on the pensioner.
- (d) Single lump sum payment.
- (e) Child endowment for the fourth and subsequent children under 16 years in a family increases by 25 cents a week for each child so that the rate payable is \$2.25 a week for the fourth child, \$2.50 for the fifth child and so on.
- (f) Class B Widows' pensions may also be payable to certain widows between 45 and 50 years of age.
- (g) Class C Widows' pensions are generally payable for not more than 26 weeks immediately after the husband's death.
- (b) A funeral benefit of up to \$40 is payable to an age, invalid or widow pensioner liable for the funeral costs of a spouse, a child or another such pensioner. A benefit of up to \$20 is payable to any person liable for the funeral costs of an age or invalid pensioner. For these benefits, 'pensioner' means a person who would be entitled to a pension if the tapered means test did not apply.
- (i) Long-term sickness benefits are payable to persons who have received sickness benefits continuously for six weeks. A supplementary allowance at a maximum rate of \$4 a week is payable subject to the payment of rent and to a means test. Persons in hospital who have no dependants do not qualify for these benefits.
- (j) Disabled persons may be given rehabilitation treatment, followed, where necessary, by vocational training. During the period of rehabilitation treatment patients receive the appropriate pension or benefit and while receiving vocational training they are paid a rehabilitation allowance. In addition a training allowance and, where appropriate, a living away from home allowance are also payable free of means test. Free vocational training, with associated allowances, may also be available to Class A and Class B widow pensioners.
- (k) A subsidy of \$5 a week is payable in respect of a person 80 years or more who receives approved personal care and who resides in hostel-type accommodation in an aged persons' home conducted by an eligible organisation under the *Aged Persons Homes Act*.

Pensions and Benefits

In the previous table a description was given of the various pensions, benefits, etc. The rates and conditions are varied from time to time by amending legislation; the 1972-73 rates were announced in the Federal Budget of August 1972. (The Federal Treasurer outlines social service proposals in his budget and these are implemented in later Acts.)

Age and Invalid Pensions

Generally pensions are payable to persons who have been resident in Australia, New Zealand or the United Kingdom for 10 years in the case of age pensioners and five years in the case of invalid pensioners. (Reciprocity agreements exist with New Zealand and the United Kingdom.)

The qualifying ages for age pensions are 65 years for men and 60 years for women; invalid pensions are payable to persons over 16 years of age who are permanently incapacitated for work. Additional allowances are payable for dependants under certain conditions.

For age and invalid pensions, the same means test on income and property operates. 'Means' can consist entirely of income, entirely of property, or any combination of them. The calculation of income excludes the pension itself, income from property, gifts from family, benefits from hospital and medical insurance schemes, child endowment, etc.; the property component excludes home, furniture, personal effects, the first \$400 of property and \$1,500 of surrender value of life policies, and the capital value of any life or contingent interest, etc. Blind persons, however, may receive the maximum rate of pension free of means test.

The 1972 Federal budget varied the sliding scale means test so that a single pensioner can draw the full pension (\$1,040 per annum) and also have other income not exceeding \$1,040. When the single pensioner's other income reaches $\$1,040 \times 3$, i.e. \$3,120, all pension ceases.

Married pensioners can draw full pension (\$1,794 per annum) and also have other income of \$1,794. When their other income reaches $\$1,794 \times 3$, i.e. \$5,382, all pension ceases.

Property equivalents of income are calculated by assuming that 'income' is 10 per cent of the value of property. So the permissible property limits under the varied means test are as follows:

Single: Lower Limit: \$1,040 × 10 plus \$400 = \$10,800.

Upper Limit: \$3,120 × 10 plus \$400 = \$31,600.

Married: Lower Limit: \$1,794 × 10 plus \$800 = \$18,740.

Upper Limit: \$5,382 × 10 plus \$800 = \$54,620.

If the only means are those assessed on the basis of property, then the lower limits shown above are compatible with drawing full pension; and the upper limits are those at which all pension ceases.

At the time of the 1972 budget, the Federal Government stated that its policy was to completely abolish the means test within three years.

Free medical service and medicine are provided for pensioners and their dependants, and a concessional telephone rental equal to two-thirds of the amount otherwise payable is available to blind people, pensioners who live alone, and to certain others. Radio and television licences at a reduced rate are also available to these pensioners. Persons who become pensioners for the first time because of the 'tapered' means test, introduced in October 1969, are not eligible for membership of the Pensioner Medical Service or entitled to other subsidiary benefits.

On the death of one of a married pensioner couple, the survivor receives six fortnightly instalments at the married couple rate before suffering reduction to the single rate.

Pensions are paid fortnightly by cheque posted to the pensioner's address.

Widows' Pensions

These were introduced by the Curtin Government in 1942. They were payable to widows who had been resident in this country, New Zealand or the United Kingdom for five years before claiming a pension. There is no residential qualification where the woman and her husband were living permanently in Australia before he died.

The classes of widows are as follows: (i) a Class A widow has one or more dependent or student children in her care; (ii) a Class B widow is at least 50 years of age, or 45 years when her Class A pension ceases (because she no longer has a child in her care); and (iii) a Class C widow is under 50, without children, and in necessitous circumstances in the 26 weeks following her husband's death. The term 'widow' includes a deserted wife, a divorcee and a woman whose husband has been imprisoned for at least six months or is a patient in a mental hospital. Certain 'dependent females' may also qualify for pension.

In 1968 a widows' vocational training scheme was introduced (where participation in the work force was inhibited by the pensioner's lack of skill or training).

The following table shows, for Tasmania, the number and sex of persons receiving age, invalid and widows' pensions, and the amounts paid out in pensions and allowances:

Age, Invalid and Widow Pensioners and Payments

Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Age and Invalid Pensions—						
Number of Age Pensioners (a)—						
Males	5,809	5,964	6,178	6,353	7,312	7,667
Females	13,372	13,626	14,233	14,676	16,603	17,227
Persons	19,181	19,590	20,411	21,029	23,915	24,894
Number of Invalid Pensioners (a)—						
Males	2,027	2,086	2,065	2,231	2,376	2,523
Females	1,417	1,444	1,483	1,588	1,675	1,793
Persons	3,444	3,530	3,548	3,819	4,051	4,316
Amount of Pensions Paid .. \$'000	13,439	14,574	15,414	16,768	19,517	21,835
Widows' Pensions—						
Number of Pensioners (a)	2,327	2,432	2,588	2,678	2,958	3,138
Amount of Pensions Paid .. \$'000	1,791	1,983	2,125	2,465	2,927	3,327

(a) At 30 June.

Unemployment, Sickness and Special Benefits

Legislation for these benefits was introduced in 1944 by the Curtin Government and payments began in 1945. The minimum age is 16 years, the maximum 65 (male) and 60 (female). There are no nationality restrictions, but if a claimant has not been resident in Australia for one year before making the claim, the Department must be satisfied that he intends to live here permanently. Benefits are not payable to people qualified to receive invalid, age, widows' or service pensions, or tuberculosis allowances.

To receive unemployment benefit, a person must be out of work (but not through being a direct participant in a strike), must be capable of undertaking and willing to undertake, suitable work and have taken reasonable steps to obtain employment. Registration with the Commonwealth Employment Service is necessary; payment is at the discretion of the Department of Social Services.

Sickness benefit may be paid to a person temporarily unable to work because of sickness or accident and who has suffered a loss of income because of this. A married woman is not eligible to receive a sickness benefit if it is reasonably possible for her husband to maintain her. Where the husband is able to maintain her partially a benefit may be paid at a rate considered reasonable in the circumstances.

A special benefit may be granted to a person not qualified for a pension or an unemployment or sickness benefit if, because of age, physical or mental disability, domestic circumstances, or for other valid reasons, he is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, persons caring for invalid parents, and persons ineligible for either age, or invalid or widowers' pensions because of lack of residence qualifications.

The next table gives Tasmanian details for unemployment, sickness benefits and special benefits:

Commonwealth Unemployment, Sickness and Special Benefits
Beneficiaries and Payments

Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Unemployment Benefits—						
Claims Granted no.	2,742	3,166	3,746	4,110	3,825	4,388
Persons on Benefit—						
At 30 June no.	433	526	635	600	437	782
Weekly Average no.	516	433	506	571	548	501
Benefits Paid \$'000	275	228	264	297	360	366
Sickness Benefits—						
Claims Granted no.	2,040	2,147	1,952	2,119	2,194	2,687
Persons on Benefit—						
At 30 June no.	298	267	291	242	263	349
Weekly Average no.	263	281	259	234	228	292
Benefits Paid \$'000	174	190	165	166	199	327
Special Benefits—						
Claims Granted no.	122	160	99	414	429	388
Persons on Benefit—						
At 30 June no.	115	102	87	147	157	150
Weekly Average no.	121	104	89	135	145	146
Benefits Paid \$'000	57	47	42	55	68	71
Total Benefits—						
Claims Granted no.	4,904	5,473	5,797	6,643	6,448	7,463
Persons on Benefit—						
At 30 June no.	846	895	1,013	989	857	1,281
Weekly Average no.	900	818	854	940	921	939
Benefits Paid \$'000	506	464	471	518	628	764

Maternity Allowances

Maternity allowances were introduced by the Fisher Government in 1912. There is no means test and any mother is entitled to a maternity allowance if she gives birth to a child in Australia and if she resides or intends to remain in Australia. It may also be paid in certain other cases, e.g. a birth on a ship proceeding to Australia. Payment is a *single grant* of \$30 where there are no other children; \$32 where there are one or two other children and \$35 where there are three or more children in the mother's care. The amount is increased by \$10 for each additional child in a multiple birth; \$20 of the allowance may be paid four weeks before the birth and the balance soon after.

The following table shows payments made in Tasmania during recent years:

Maternity Allowances						
Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Claims no.	7,578	7,606	7,939	8,373	8,130	8,594
Amount \$'000	243	243	254	267	259	274

Child Endowment

Child endowment was introduced by the Menzies Government in 1941, and is paid to persons or institutions having the care, custody and control of children under 16 years, or student children under 21. One year's residence in Australia is required if the mother and child were not born here, but this requirement is waived if the Department is satisfied they intend to remain here permanently.

The following table shows child endowment statistics for Tasmania:

Child Endowment Endowed Children and Students and Payments						
Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Endowed Children and Students (a)—						
Children in Endowed Families no.	126,870	127,688	127,849	129,200	129,853	129,322
Children in Approved Institutions no.	401	499	432	436	423	429
Students (a) no.	3,933	4,018	4,166	4,942	5,263	5,525
Total Endowed no.	131,204	132,205	132,447	134,578	135,539	135,276
Amount Paid During Year (b) .. \$'000	6,318	6,912	6,612	6,710	7,416	6,686

(a) Number at 30 June. Children, those under 16 years; students, 16 but under 21 years.

(b) In 1966-67 and 1969-70 five 12-weekly payments, instead of the usual four, were paid.

Pensioner Health Benefits and Tuberculosis Allowances

The pensioner medical service and tuberculosis allowances are described later in this Chapter under the heading 'Health Services'.

Commonwealth Rehabilitation Service

In 1941 the Curtin Government introduced provisions for the vocational training of invalid pensioners. In 1948 the Chifley Government provided for the rehabilitation of invalid pensioners and of unemployment and sickness benefit recipients. The Menzies Government in 1955 extended eligibility to persons receiving tuberculosis allowances and to children of 14 and 15 years who otherwise might qualify for an invalid pension at 16. In 1958 widow pensioners and people receiving special benefits were granted eligibility.

The Service aims to fit handicapped people for employment by supplying medical and hospital treatment, surgical aids and appliances and, where necessary, arranging special education and training courses in industry, trade, commerce, public service, etc. Although employment is specifically the responsibility of the Department of Labour and National Service, vocational counsellors arrange employment with suitable employers and follow up progress.

Rehabilitation training is given if the disability is a substantial handicap to engaging in full employment and if there are reasonable prospects of the person working within three years of starting treatment or training. Disabled people who do not qualify for free service may pay for rehabilitation themselves or may be sponsored by private or government organisations. In Tasmania the Department's rehabilitation centre is located in Hobart.

The following table shows the numbers accepted for rehabilitation and placed in employment in Tasmania:

Operation of Commonwealth Rehabilitation Service

Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Persons—						
Accepted for Rehabilitation .. no.	100	90	89	100	96	100
Placed in Employment .. no.	86	77	81	90	80	91
Expenditure (a) \$'000	54	60	58	70	79	108

(a) Excludes capital expenditure on sites and buildings and administrative costs of the Rehabilitation Service.

Training Scheme for Widow Pensioners

In 1968 the Gorton Government introduced a training scheme to provide Class A and Class B widow pensioners with a vocational skill to enable them to undertake gainful employment. Training is limited to one year's duration; it may be either full-time or part-time, and generally it will be provided in business or technical colleges. This has necessitated special classes being organised by arrangement with the Tasmanian Education Department.

During training a widow continues to receive her pension, subject to normal conditions of eligibility, and in addition receives a training allowance of \$8 per fortnight plus fares reimbursement. The Commonwealth pays all tuition fees, and in addition provides essential books and equipment during training up to a maximum of \$80.

The following table gives details of expenditure on the scheme since its introduction and the numbers accepted for training and placed in employment:

Operation of the Commonwealth Training Scheme for Widow Pensioners

Particulars	1968-69	1969-70	1970-71
Persons—			
Accepted for Training no.	41	41	55
Placed in Employment no.	2	17	20
Expenditure \$'000	6	13	14

Homes for the Aged

Under the *Aged Persons Homes Act 1954*, the Menzies Government provided for subsidies, on a \$ for \$ basis, to approved organisations intending to build or acquire homes for aged persons. In 1957 the cost of land was allowed as part of the capital cost and the Commonwealth contribution was increased to \$2 for \$1. The aim is the provision of conditions approaching ordinary domestic life. ('Homes' in this context does not refer to houses built under the Commonwealth-State Housing Agreement.) During 1970-71 22 grants, amounting to \$1,376,035 were approved. Cumulative totals for Tasmania, since inception of the scheme, to 30 June 1971 were: number of grants approved, 119; value of approvals, \$5.03m.

Personal Care Subsidy

A subsidy of \$5 per week is payable to organisations in respect of a person of 80 years or more who receives approved personal care and who resides in hostel-type accommodation in an aged persons' home eligible under the *Aged Persons Homes Act* 1954 and for whom National Health Benefit is not received.

Delivered Meals Subsidy

A subsidy at the rate of \$1 for every 10 meals provided is payable to approved organisations to establish, maintain, expand and improve 'meals-on-wheels' service. In 1970-71 10 organisations in Tasmania and the meal services they provide were approved. Subsidy payments were \$7,723.

Sheltered Workshops

The Commonwealth *Sheltered Employment (Assistance) Act* 1967 incorporated the *Disabled Persons Act* 1963. The Act's object is to foster and encourage the development of sheltered workshops for disabled people who, on medical grounds, qualify or who may later qualify, as invalid pensioners; to provide such persons with work experience, and the opportunity to earn to the limit of their capabilities for work done, the hope being that some may graduate to normal employment in the future.

Assistance is given by a \$2 for \$1 subsidy towards: (i) the capital cost of erection or addition to workshops; (ii) the accommodation of people engaged in sheltered employment; (iii) the rental for up to three years of premises used to provide sheltered employment; (iv) the cost of workshop equipment; and (v) accommodation hostels for handicapped people engaged in normal employment.

In addition a \$1 for \$1 subsidy is payable towards the cost of salaries of some employees of sheltered workshops and hostels for disabled people engaged in sheltered employment. A training fee of \$500 is payable for each eligible disabled person placed in open employment for not less than twelve months.

During 1970-71 four workshops and 26 equipment grants totalling \$104,538 were approved. Payment of one training fee (\$500) was made and \$26,532 was paid in salary subsidies in respect of 34 approved positions. Grants approved in Tasmania since inception of the scheme to 30 June 1971, amounted to \$488,870.

Assistance for Handicapped Children

The Commonwealth *Handicapped Children (Assistance) Act* 1970 is designed to assist organisations to provide special training and accommodation facilities for handicapped children with the aim that, in many cases, the children will eventually be engaged fully in the social and economic life of the community.

Under the Act a \$2 for \$1 subsidy is payable to eligible organisations towards: (i) the capital cost of premises for the training of handicapped children; (ii) the cost of equipment for, or in connection with, such training; and (iii) the capital cost of residential accommodation for handicapped children receiving training.

During 1970-71 six training programmes were approved. One accommodation grant and two equipment grants totalling \$52,275 were approved.

State Department of Social Welfare*Expenditure*

Activities of this State Government Department are grouped under Child Welfare and Relief. The following table shows expenditure over a five-year period:

**Department of Social Welfare: Expenditure
(\$'000)**

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Administration and General	250	303	411	452	571
Relief Division	167	189	259	386	484
Child Welfare Division ..	210	222	300	307	325
Ashley Home for Boys ..	93	105	(a)	(a)	(a)
Grants to Organisations ..	78	85	109	121	146
Total	798	904	1,079	1,267	1,526

(a) Not available; included under Administration and General and Child Welfare Division.

In 1970-71 the major expenses were: under Relief Division, fuel allowances for eligible pensioners, \$107,000 and relief and maintenance, \$359,000; under Child Welfare Division, maintenance of boarded-out children, \$149,000; and contributions towards maintenance of children in approved institutions, \$94,000; and under Grants to Organisations, Tasmanian Institute for Blind and Deaf, \$94,000.

Relief Division

The functions of this Division are to investigate applications for assistance from needy mothers with dependent children and to give cash relief where necessary; to issue fuel allowances (subject to a means test) to aged and invalid pensioners; and to help pay for funerals, transport, furniture removals, artificial limbs, spectacles, etc. for persons in indigent circumstances. Special grants are made to deserted wives (and sometimes deserted husbands) left with children, wives with husbands in gaol, to certain persons awaiting receipt of Commonwealth benefits or pensions, and to relatives supporting deserted children.

Child Welfare Division

The work of this Division includes the investigation of complaints that children are neglected or inadequately controlled; the supervision of neglected children in their own homes to avert the need for more drastic action; the investigation of cases to appear in Children's Courts; the supervision of children under Court order; the placement and supervision of children made wards of the State; the control of the Department's receiving and other homes; the recovering of maintenance costs, where possible, from parents of children who are a charge on the Department; the licensing and supervision of children's boarding homes and day nurseries; the supervision of child migrants; and welfare of children referred by Courts in divorce actions.

Where, because of illness, a mother is unable to undertake her normal duties, accommodation may be provided for her children at Rochebank Hostel in Hobart, or at other suitable residences throughout the State.

Adoption of Children: Women child welfare officers investigate applications by prospective adoptive parents and interview mothers wishing to place their children for adoption. Applications for adoption of children are heard by a magistrate. There were 289 orders for adoption made in 1970-71.

Children's Courts Statistics

In February 1970 the regulations dealing with the treatment of child offenders were changed so that police were no longer required to report cases to District Child Welfare Officers for approval of proceedings. Previously child welfare officers sometimes recommended that no further action be taken in particular cases, resulting in more children appearing in police reports than eventually appeared in court.

Children's Courts are established to hear cases involving persons under the age of 17 years. If proceedings are instituted, a child's parent has the right to be heard and to examine and cross examine witnesses or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience. For the powers of Children's Courts see the section under "The Present Law Court System" in Chapter 16.

The following table shows the number and ages of children who appeared before Children's Courts in 1970-71:

Children Appearing Before Children's Courts (a), 1970-71
Classified by Age and Sex

Sex	Age (in Years)										Total (b)
	Under 8	8	9	10	11	12	13	14	15	16	
Boys	18	2	23	44	42	92	180	245	302	574	1,593
Girls	8	3	1	3	7	11	13	26	45	60	184
Total	26	5	24	47	49	103	193	271	347	634	1,777

(a) A child appearing twice or more before the Courts will appear twice or more in the table.

(b) Includes 78 children (71 boys and seven girls) who were 17 years old when appearing before the Courts but 16 at the time the alleged offences were committed.

Before 1969-70 a child could not be prosecuted without his case having been referred to a welfare officer for investigation. The following table shows the offences for which children were reported each year until 1968-69; from 1969-70, however, the figures relate to actual prosecutions. Where a report concerned multiple offences the apparently more serious one has been listed.

Children in Police Reports (a)
Classified by Offence

Offence Alleged	1966-67	1967-68	1968-69	1969-70	1970-71
Damage to Property	97	135	99	86	103
Breaking, Entering and Stealing ..	224	346	326	338	320
Stealing	343	404	426	397	326
Receiving	18	24	12	19	24
Illegal Use of Vehicle	109	125	59	69	133
Offences Involving Fraud	8	9	14	10	18
Sex Offences	16	21	11	16	8
Other Offences Against the Person ..	7	24	41	30	62
Offences Against Decency	11	24	32	25	27
Relatively Serious Offences.. ..	833	1,112	1,020	990	1,021
Disorderly Conduct	63	48	32	33	42
Traffic Offences	128	162	185	177	229
Breaches of—Licensing Laws	224	311	331	293	316
By-Laws	26	27	7	27	44
Firearm Offences	31	46	42	36	24
Other Offences	472	594	597	566	655
Appearing as—Uncontrolled	33	19	19	35	36
Neglected	65	89	73	70	61
Breaches of Supervision	10	10	15	10	4
Complaints under Child Welfare Act	108	118	107	115	101
Total	1,413	1,824	1,724	1,671	1,777

(a) A child reported twice or more will appear twice or more in the table. Until 1969-70, children in police reports were not all necessarily brought before the Courts (see paragraph preceding table).

In the previous table, a child may appear more than once if more than one report has been made. The following table shows the number of children found guilty of an offence or against whom a complaint has been proven; the basis for inclusion is different from that in the two earlier tables: (i) a child found guilty at two or more appearances is only counted once; and (ii) a child found guilty of more than one offence is classified under the more serious.

Individual (a) Children: Findings of Guilty, or Complaint Proven, 1970-71

Sex	Relatively Serious Offences (b)	Other Offences (b)	Complaints under Child Welfare Act (b)	Total
Boys	674	434	34	1,142
Girls	71	50	42	163
Total	745	484	76	1,305

(a) See paragraph before table for definition of 'individual'.

(b) See previous table for classification of offences and complaints.

Wards of the State and Supervised Children

Children are made wards of the State either on application of a parent or relative (e.g. in the case of both parents' death or desertion) or by a court order. Children may remain wards until they reach the age of 18 and in some cases wardship can be extended to the age of 21. Wards, while under the supervision of a welfare officer, are often returned to their home and in such cases wardship is frequently terminated; as it is with those who successfully take up employment.

**Wards of the State: Location, Admissions and Discharges
(Number)**

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Location at 30 June—					
In Homes—					
Departmental	87	112	92	103	110
Other Children's	191	179	196	197	204
Foster	277	282	356	392	349
With Parents or Relatives	137	176	113	132	163
In Private Lodgings.. .. .	60	54	63	28	55
Other (a)	32	24	27	28	39
Total	784	827	847	880	920
Children Made Wards During the Year—					
By Courts—Delinquent	58	60	69	78	70
Neglected	32	40	43	24	40
On Parents' or Guardians' Request—					
Neglected (Uncontrolled) (b)	1	9	6	4	2
Deserted, or Parents Unable to Provide (c)	45	56	65	68	58
Total	136	165	183	174	170
Children Ceasing to be Wards During the Year—					
Adopted	18	20	35	27	31
Supervision Not Needed, Age, etc.	105	102	128	114	99
Total	123	122	163	141	130

(a) Children in hospitals, other government institutions, missing, etc.

(b) Neglected—unfit for guardianship.

(c) Destitute and/or homeless.

At 30 June 1971 there were 1,413 children under State control or supervision. Of these children 398 were under legal supervision of child welfare officers as a result of Court-imposed supervision orders and 920 were wards of the State. The previous table shows the location of the wards at 30 June and admissions to, and discharges from, wardship during the year.

Wards are placed in: (i) foster homes (mostly ordinary family homes); and (ii) children's homes (private and departmental). The Department makes payments, based on the child's age, for wards in foster homes and contributes to non-departmental institutions for the maintenance of State wards.

Approved children's homes and foster homes are assisted with major items of clothing. The Department accepts responsibility for hospital expenses and cost of dentistry for wards of the State where this treatment is not available from school dental or hospital services. Optical expenses are also met where necessary. Pocket money, varying from five to 50 cents per week, is provided for children in foster homes. Assistance at a rate of \$2.50 per week also is available in respect of certain non-wards who are orphans or abandoned in the care of the managers of approved children's homes. Contributions are also made to approved children's homes towards the maintenance of children without other means of support admitted at the direct request of other State Government Departments. The maximum rate payable is \$8.25 a week for each child.

The next table shows government expenditure on wards of the State:

Wards of the State: Government Expenditure
('\$000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Expenditure on Departmental Homes	211	222	227	240	271
Maintenance of Children—					
In Foster Homes	98	103	119	134	149
In Non-departmental Homes	71	78	95	97	94
Total Expenditure	381	404	441	471	515

Departmental Homes: The State's six receiving homes, which provide temporary accommodation for children, are maintained at Hobart, Launceston and Wynyard. Also, in Hobart, a hostel provides accommodation for older boys who have left school and need to be established in employment.

Ashley Home for Boys, Deloraine, provides care and training for older wards who, because of maladjustment or delinquency, require special institutional control.

Wybra Hall, Mangalore, provides care and training for younger wards and boys on remand. Ages range from eight to 15 years and those admitted have problems of maladjustment or delinquency.

Westwinds, Woodbridge, is a home for intellectually and educationally retarded boys who range in age between seven and 17. Boys of school age attend the local area school. On completion of schooling, boys in need of further training are trained on the home farm as a preparation for future employment.

Weeroona Girls' Training Centre (Latrobe) provides for those adolescent girls in the care of the Department who require special institutional supervision and training. Girls of school age receive correspondence school education and older girls are trained in various aspects of domestic work.

Non-departmental Homes: Other children's homes in which wards are placed are: Kennerley Children's Homes at Claremont and Chigwell; Salvation Army Boys' Home, Salvation Army Girls' Home, St Joseph's Child Centre, Bethany Boys' Hostel, Mt St Canice Convent and Hillcrest, all in Hobart; Yalambee Hostel, Glenorchy; Clarendon Home, Kingston; Girls' Home, and Northern Tasmanian Home for Boys, Launceston; and Roland Boys' Home, Sheffield.

REPATRIATION SERVICES AND PENSIONS

General

The Repatriation Department was established as a Commission under Federal legislation in 1920. The term 'repatriation' does not adequately describe the Department which is responsible for: (i) the payment of war and service pensions to eligible ex-servicemen and women and their dependants; (ii) the provision of medical treatment to ex-servicemen and women for injuries and illnesses caused or aggravated by their war service; (iii) the provision of medical treatment to widows and dependants of deceased ex-servicemen whose deaths are due to war service; (iv) the provision of medical treatment in certain circumstances to ex-servicemen and women who are suffering from injuries and illnesses not caused or aggravated by war service; and (v) medical treatment for nurses of the 1914-18 War.

Benefits are provided in respect of service in the 1914-18 and 1939-45 Wars, in the Korea and Malaya operations, with the British Commonwealth Far East Strategic Reserve, and the Special Overseas Forces including ex-servicemen from the Vietnam operations.

Medical Services

To discharge these functions in Tasmania, the Repatriation Department maintains a branch office, a general hospital and an artificial limb and appliance centre in Hobart. Facilities exist at the Repatriation General Hospital for medical treatment of hospitalised patients and specialist services for out-patients. Generally, treatment for out-patients throughout the State is provided by doctors the Department has appointed as Local Medical Officers. People entitled to treatment can select a doctor from the panel of L.M.Os and receive treatment at departmental expense. Payment for treatment in hospitals other than the Repatriation General Hospital is met by the Department only in certain circumstances.

Repatriation Pensions—General

War pensions are payable, without general application of a means test, for war-caused or war-aggravated disabilities. Service pensions are payable in the main, to certain ex-servicemen 60 years and over (and ex-servicewomen 55 years and over) subject to a means test; no disability need be claimed.

War and dependant's pensions may be granted to persons, or to dependants of persons, who come within the following categories and who suffered death or disability: (i) arising from any occurrence before discharge, or overseas war service or on service in Australia within certain areas; (ii) attributable directly to service where the member served only in Australia; (iii) from pulmonary tuberculosis where the member served in any theatre of war; and (iv) from aggravation of a condition existing at enlistment where camp service exceeded six months.

Those who receive war pensions are also eligible for free medical and hospital treatment for their pensionable disabilities. With certain categories of pensioners, the eligibility for free treatment is widened to cover all disabilities. It is also possible for an ex-serviceman to qualify for free treatment for a disability without necessarily being granted a pension. Details for selected repatriation benefit rates are shown in the next table:

Repatriation Benefits
(\$ Per Week)

Benefit	Rate		
	1971-72 Budget	Amending Legislation (a)	1972-73 Budget
PAYABLE WITHOUT MEANS TEST			
Special Rate Pensions (b)—			
Member	42.50	44.50	48.00
Wife	4.05	..	4.05
Each Child	1.38	..	1.38
Intermediate Rate Pensions (c)—			
Member	30.25	31.25	34.00
Wife	4.05	..	4.05
Each Child	1.38	..	1.38
General Rate Pensions (d)—			
Member	12.00	..	14.00
Wife	max. 4.05	..	max. 4.05
Each Child	max. 1.38	..	max. 1.38
Special Compensation Allowances (e)—			
Members with 75 per cent to 100 per cent Assessed Incapacity	4.50 to 6.00	..	9.00 to 12.00
War Widows (f)—			
Pension	17.25	18.25	20.00
Domestic Allowance	8.00	..	8.50
War Orphans' Pensions (g)—			
One Parent Dead—			
Each Child	7.00	..	7.35
Both Parents Dead—			
Each Child	14.00	..	14.70

MAXIMUM RATES PAYABLE SUBJECT TO MEANS TEST

Service Pensions (b)—			
Member—Standard (Single Person)	17.25	18.25	20.00
Married	15.25	16.00	17.25
Addition for—First Child	4.50	..	4.50
Each Other Child	4.50	..	4.50
Wife's Pension (If she is not a Pensioner) (i)—	8.00	..	17.25
First Child (If no Addition to Member's Pension Paid)	4.50	..	4.50
Each other Child (up to Fourth Child)	0.25	..	0.25
Guardian's Allowances—			
Where There is a Child Under Six Years or an Invalid Child Requiring Full-time Care	6.00	..	6.00
Other Cases	4.00	..	4.00

(a) Amending legislation was assented to on 24 April 1972.

(b) Special rate pension (commonly referred to as the T.P.I. pension) is granted where an ex-serviceman, because of incapacity accepted as due to war service, is totally and permanently incapacitated—that is, to such an extent as to be precluded from earning other than a negligible percentage of a living wage—or has been blinded as a result of war service. Where an ex-serviceman is only temporarily totally incapacitated, an amount equal to the special rate pension is payable only for the period he is incapacitated. It may also be granted under certain conditions to an ex-serviceman who is suffering from pulmonary tuberculosis.

(c) Intermediate rate pension is payable where an ex-serviceman, because of the severity of his war-caused disabilities, can work only part-time or intermittently and therefore is unable to earn a living wage.

- (d) General rate pension is payable to an ex-serviceman whose war-caused disabilities do not prevent him from working, although they may reduce his earning capacity. Pension from 10 per cent to 100 per cent of the maximum general rate is payable according to the degree of incapacity as assessed by a Repatriation Board, the Repatriation Commission or an Assessment Appeal Tribunal.
- (e) A 'Special Compensation Allowance' is payable to certain general rate pensioners with assessed incapacity ranging from 75 per cent to 100 per cent.
- (f) Pension is payable to the widow of an ex-serviceman whose death has been accepted as due to his war service or who has died from causes not due to war service but was receiving, at the time of his death, or is later adjudged to have been entitled to receive, the special rate of war pension, one of the rates payable to double amputees or one of the special rates payable in respect of tuberculosis or who served in a theatre of war or who died as a direct result of pulmonary tuberculosis.

Domestic allowance is also payable to a war widow if she has a dependant child or children under 16 years, or is 50 years of age or over, or is permanently unemployed or has a child 16 years or over who is undertaking education or training approved by the Commission and who, in the opinion of the Commission, is not receiving an adequate living wage.

- (g) War orphans' pensions are paid for the children of an ex-serviceman whose death occurred in circumstances similar to those mentioned in (f) above. The pensions continue until the children attain 16 years.

- (h) Service pension, which is broadly the equivalent of the age and invalid pensions payable to civilians, is payable, subject to a means test, to an ex-serviceman who: (i) is suffering from pulmonary tuberculosis; or (ii) has served in a theatre of war (or in the case of a woman, served abroad or embarked for service abroad) and has attained, if a man, the age of 60 years, or if a woman, 55 years; or is permanently unemployable.

Where a service pension is granted to an ex-serviceman a service pension may also be paid to his wife and the first four eligible children, but the amount for a first child is normally paid as an addition to the ex-serviceman's pension.

Where the ex-serviceman's wife is receiving a social service pension, a tuberculosis allowance or a service pension as a 'member of the forces', the rate payable to him is the married rate unless, because of illness or infirmity of either or both of them, they cannot live together in a matrimonial home, when the rate payable will be the standard rate.

Guardian's allowance may be payable to a service pensioner who is unmarried, widowed, divorced or married but separated and who has the custody, care and control of a child.

Supplementary assistance, at a maximum rate of \$4 per week, is payable to: (i) a single service pensioner subject to the payment of rent (or of board and lodging) and to a means test; or (ii) a married service pensioner on the same basis as a single service pensioner. The total supplementary assistance is divided equally between the husband and the wife, a maximum of \$2 per week being payable to each.

- (i) Wife's service pension of \$17.25 per week is payable, subject to a means test, to a wife who is not in receipt of a pension from the Department of Social Services or a service pension as an ex-servicewoman.

War Pension Payments

The following table shows, for Tasmania, the number of pensions in respect of ex-servicemen and their dependants, together with expenditure on war pensions:

War Pensions: Pensioners and Payments

Year	Number of Pensions Current at 30 June				Expenditure During Year (c)
	Incapacitated Ex-Servicemen	Dependants of—		Total (b)	
		Incapacitated Ex-Servicemen	Deceased Ex-Servicemen (a)		
1965-66	8,623	15,831	1,984	26,446	\$'000 6,919
1966-67	8,573	15,018	2,031	25,629	6,654
1967-68	8,610	14,324	2,073	25,015	6,790
1968-69	8,644	13,731	2,100	24,485	7,622
1969-70	8,635	13,040	2,123	23,798	7,831
1970-71	8,646	12,493	2,106	23,254	8,230

(a) Includes war widows' pensions.

(b) Includes miscellaneous pensions not specified under the 'ex-servicemen' details, e.g. Seamen's War Pensions and Allowances.

(c) Includes widows' allowances.

At 30 June 1971 the proportion of ex-servicemen in Tasmania receiving war pensions in respect of service in the 1914-18 War was 14.0 per cent; the 1939-45 War 81.9 per cent; the Korea and Malaya operations, 2.2 per cent, and other operations, nearly 2.0 per cent.

Eligibility and Rates for Service Pensions

Service and dependant's pensions may be granted to persons (or to dependants of persons) who come within the following categories and satisfy a means test: (i) men aged 60 or over who served in a theatre of war or women 55 years and over who served abroad; (ii) men and women with similar service particulars who are totally unemployable; (iii) sufferers from pulmonary tuberculosis not qualifying for a war pension on this ground. The conditions governing the means test are the same as for old age pensions described earlier in this Chapter.

Service Pension Payments

The following table shows, for Tasmania, the number of service pensions in respect of ex-servicemen and their dependants, and expenditure on pension payments:

Service Pensions: Pensioners and Payments

Year				Number of Pensions Current at 30 June			Expenditure During Year	
				Ex-Servicemen	Dependants of—			Total
					Living Pensioners	Deceased Pensioners		
1965-66	..	..	..	1,709	827	101	2,637	\$'000 964
1966-67	..	..	..	1,694	833	111	2,638	935
1967-68	..	..	..	1,689	898	107	2,694	1,014
1968-69	..	..	..	1,712	791	107	2,610	1,093
1969-70	..	..	..	2,039	976	117	3,132	1,404
1970-71	..	..	..	2,074	1,003	118	(a)3,197	1,604

(a) Includes act of grace pensions.

Soldiers' Children Education Scheme

Eligible Children

Educational assistance is granted to ex-servicemen's children in particular circumstances: (i) if the parent has died from causes attributed to war service or was receiving war pension for specific serious disabilities at the time of death; (ii) if the parent, as a result of war service, is blinded, totally and permanently incapacitated or receiving the special rate pension for pulmonary tuberculosis.

Benefits

For children under 12 years, the scheme pays the cost of school requisites and fares. At secondary level, fortnightly maximum payments are: under 14 years, \$5.20; 14 and under 16, \$7.80, 16 years and over \$17.20 if both parents are living and \$18.60 if only one parent is living. At tertiary level, those living at home may receive \$26.92 per fortnight and those living away from home, \$42.31. For tertiary and professional courses, students may receive grants to pay for text books, equipment, fees and fares. The means test used to determine whether the maximum shall be paid does not relate to the parents' income but takes into account grants the student is receiving from scholarships, cadetships, etc.

HEALTH SERVICES

State Health Services

General

The State Department of Health Services is responsible for the maintenance of the health of the community, the prevention of disease and the provision of government hospital and medical services. The Department is under the jurisdiction of the Minister for Health, with the Director-General of Health Services as its permanent head. The headquarters of the Department controls two divisions, each under a director, namely Public Health and Tuberculosis. Three specialised services are also part of the Department, the State Health Laboratory under the control of the Director of Pathology; the Government Analyst and Chemist Laboratory under the control of the Government Analyst; and Cardio-Vascular Services, under the control of a Director.

The following table shows expenditure from Consolidated Revenue for a five-year period:

Department of Health Services: Expenditure from Consolidated Revenue
(\$'000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Administration, Head Office	235	252	254	r257	325
Hospital and Medical Services—					
Administration	184	213	214	r229	243
Grants to Hospitals	6,390	6,619	8,087	9,442	10,854
Medical Services, Country Districts	137	149	146	r167	188
District Nursing Service (a)	184	189	22	1	..
Dental Health Service	330	459	490	504	599
State Laboratory, Pathology	6	4	4	4	4
National Fitness Section	44	54	58	66	78
Nurses' Registration Board	4	5	9	7	7
Government Analyst and Chemist	53	65	77	81	110
St John's Park Hospital	1,052	1,191	1,261	1,378	1,577
Public Health—					
Administration and Inspectors	159	184	213	245	308
School Medical Service	115	143	150	161	185
Child Health Service	148	161	173	192	218
Mothercraft Home	78	86	95	106	116
Road Safety .. ..	..	..	..	4	42
Tuberculosis Division—					
Administration	168	174	184	190	203
Chest Hospitals	313	325	210	217	244
Psychiatric Services—					
Administration	111	168	(b)	(b)	(b)
Mental Health Hospitals	1,903	2,167	(b)	(b)	(b)
Miscellaneous Grants and Expenses	(c) 322	(c) 452	(c) 401	440	583
Total	11,937	13,058	12,048	13,691	15,884

(a) District Nursing Centres administered from 1 July 1968 by Public Hospitals.

(b) Administered by Mental Health Services Commission from 1 July 1968.

(c) Includes Royal Commission on fluoridation of water supplies: 1966-67, \$15,000; 1967-68, \$22,000; 1968-69, \$2,000.

Headquarters

Responsibilities of the Headquarters of the Department of Health Services include:

- (i) public hospital management advisory services and the licensing of private hospitals and other medical establishments under the *Hospitals Act* 1918;
- (ii) District Medical Service;
- (iii) School Dental Service;

- (iv) Nurses' Registration Board and Dental Mechanics' Registration Board;
- (v) Tourist Nursing Service;
- (vi) legislation concerned with health and allied matters;
- (vii) certain specialist medical services;
- (viii) State Drug Advisory Committee;
- (ix) liaison with the health departments of other States and the Commonwealth (the Director-General of the State Department is a member of the National Health and Medical Research Council and the (National) Hospital and Allied Services Advisory Council); and
- (x) liaison with professional, medical, dental and nursing associations.

The Director-General is the controlling authority under the Hospital Employees' Award, the Medical Officers' Award and the Nurses' (Public Hospitals) Award. Headquarters also controls and maintains Crown property occupied by the various sections of the Department and deals with the appointment and salaries of staff who are not officers of the Public Service.

Division of Road Safety

This Division is primarily concerned with development and implementation of government road safety policy and legislation and co-ordinating government and private facilities to achieve increased road safety.

The Division operates a State-wide schools road safety education programme. In addition to school education, the Division is responsible for general road safety publicity and public education and administers activities of the Road Safety Council of Tasmania.

School Dental Health Service

This service, available free to children attending school, aims to examine and treat every child each six months, but continued staff shortages have prevented this from happening. At the end of June 1972, 28 permanent clinics were operating at urban centres throughout the State while 23 mobile units provided services in most country districts.

An orthodontic service is based in Hobart; mobile and permanent clinics give a State-wide therapeutic service.

Dental Nursing: Adopting the New Zealand system, Tasmania became the first Australian State to develop a School of Dental Nursing. Ten first-year and 10 second-year State students are trained, together with 10 students on behalf of the Commonwealth Government (these are employed in the A.C.T. after graduation). Five classes have graduated since January 1968 after two-year courses, and the graduates have been appointed to clinics. The School, with a residential hostel attached providing accommodation for 30 students, is located in Hobart, and up to 90 patients a day are treated there. It is expected that a total of approximately 30 dental nurses will work in rural districts; a recognised dental nursing certificate is required for a nurse to be appointed to such a field position.

Fluoridation

In 1953 Beaconsfield became the first municipality to add fluoride to its water supply and Launceston followed in 1961. In 1964 Hobart became the first Australian capital city to add fluoride to its water supply.

A Royal Commission inquired into fluoridation of water supplies in 1968. It reported favourably and recommended its extension throughout the State. The State Government passed the *Fluoridation Act* 1968, setting up a Fluoridation Committee with power to recommend to the Minister for Health the fluoridation of any public water supply and to oversee fluoridation operations. It is required to report annually to the Minister who must lay the report before Parliament.

By July 1972 fluoridation had been extended to the City of Glenorchy, the urban portions of the Clarence and Kingborough Municipalities, the towns of Devonport, Burnie, Bridgewater, Brighton, Kempton, Pontville, New Norfolk, Richmond, Sorell-Midway Point, Campania, Cambridge, Kingston, Blackmans Bay and Margate.

District Medical Service

In 1937 the Government undertook to help the more remote municipalities obtain medical services; at present, participating municipalities levy a rate under the *Local Government Act* 1962 as amended, and meet between one-half and one-third of the cost of the scheme.

The scheme provides a general practitioner service free to all residents of the municipality for consultations and home visits. A surgery is usually attached to the district medical officer's house, and branch surgeries are sometimes located elsewhere within the district. Attention out-of-hours is charged for in accordance with a set scale, as are insurance medical examinations, compensation treatment and attention to visitors to the State.

As well as general practice, activities include the dispensing of drugs if no chemist is available; duties as Medical Officer of Health (under the *Public Health Act*) if a municipal council requests it; in some cases, duty as superintendent, if there is a district hospital within the municipality; attention to district nursing hospitals; and post mortem examinations.

Pharmaceutical Services Section

The Pharmaceutical Services Section has numerous advisory, supervisory and regulatory functions under regulations and legislation relating to narcotics, poisons, dangerous and therapeutic drugs.

Alcohol and Drug Dependency Board

This Board was established under the *Alcohol and Drug Dependency Act* 1969: its members are appointed by the Minister for Health from the medical, pharmaceutical, social service, police and legal professions. Its functions are: (i) to keep under review all matters relating to the prevention and treatment of alcohol and drug dependency; (ii) to advise in the declaration and control of substances as drugs under the Act; and (iii) to act as a board of appeal for applications by patients for discharge.

The treatment and rehabilitation of sufferers of alcohol and drug dependency is handled by the Mental Health Services Commission; the Commission's acute psychiatric units at Wynyard, Devonport and Launceston and the Royal Derwent Hospital have been declared treatment centres.

State Drug Advisory Committee

This advises on the nature, strength and variety of drugs to be supplied to public hospitals and institutions by the medical store of the Supply and Tender Department. It is not concerned with administration but helps the store to avoid stocking drugs with different names but similar properties, and stocking drugs not likely to be required.

Nursing

Nursing training is under the control of the Nurses' Registration Board. Of the State's nursing training schools, eight are general, six midwifery, two child health, one psychiatric and one geriatric. There are nine general, one psychiatric and one geriatric training schools for auxiliary nurses (nursing aides).

Tourist Nursing Service

This service is based on the fact that trained nursing sisters from outside Tasmania like to visit the State and have a working holiday. These 'tourist nurses' are employed for short periods in hospitals or district nursing centres. Not more than two months service at any one time is required of a sister in any one place but she may stay longer.

Division of Public Health

General

The Division of Public Health has responsibility for the preventive medical services of the State. The Director is responsible for the operation of the *Public Health Act* 1962 (as amended) and the control of medical officers of health and other health officers employed by the Department of Health Services and municipalities throughout the State. A major responsibility is public immunisation programmes, conducted through the municipalities; preparations distributed include the Sabin anti-poliomyelitis vaccine and the triple antigen vaccine (against whooping cough, tetanus and diphtheria). The Division is responsible for the Nutrition Advisory Service; industrial hygiene; environmental sanitation; pure food and pure drug quality control; and the public health aspects of the building regulations. Other major functions are discussed separately in the following sections.

Child Health Service

Child health nurses attached to child health centres advise mothers on the care and upbringing of their babies and younger children. In 1971 there were 96 centres and 13 travelling units. Voluntary child health committees working for the centres raise money for furnishings and equipment and buildings erected by the Department. The functions of the centres include examination of babies, maintenance of individual histories, and advice on diets, feeding techniques and hygiene. Phenistrix tests are carried out for the detection of phenylketonuria, a rare complaint which results in mental deficiency if not treated in infancy. New-born babies are visited in their homes by the sisters; details of births and addresses are supplied by the hospitals.

The Mothercraft Home: This home, located in Hobart, provides training for qualified nursing sisters who want to gain child health nursing certificates and for women who want to become mothercraft nurses. It accommodates children under two years who need care or who cannot be looked after at home, and mothers learning to look after children or having feeding problems. When space is available, children under two years can be boarded in the Home for short periods.

School Health Service

This is available free to children under 16 years at both State and non-government schools. The aim is for an annual inspection at each school by a medical officer, but staff shortages have limited this to examinations at school entry, next at 11, and finally at 15 years. Children requiring review or examination for any condition causing concern are also examined by school doctors who particularly look for conditions likely to affect a child in a school situation. Parents can make appointments for their children to be examined at centres in Hobart, Launceston, Devonport and Burnie.

School nursing sisters visit schools regularly to supervise the health and hygiene of pupils. They maintain medical records, perform cleanliness inspections, test sight and hearing, assist at medical examinations and follow-up defects notified. They contribute to health education, research projects and may organise immunisation sessions at their schools.

Notifiable Diseases

Certain diseases, including Serum Hepatitis, Food Poisoning in two or more associated cases, Ornithosis Salmonella and Shigella infections, are notifiable under the *Public Health Act*, the aim being to prevent or check their spread.

Special conditions apply to venereal diseases. Persons suffering from them must not marry until cured, or engage in the manufacture or distribution of foodstuffs, and are liable to arrest and detention if they fail to continue treatment until cured.

Quarantine provisions and tuberculosis are dealt with in later sections.

The following table shows the incidence of notifiable diseases in Tasmania for a five-year period:

Notifiable Diseases Reported to Department of Health Services
Number of Cases

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Amoebiasis .. .. .	..	..	..	1	..
Ankylostomiasis	1	..	..	..	..
Bacillic Dysentery (a)	5	..	..	..	..
Brucellosis .. .. .	..	..	2	..	..
Diphtheria .. .. .	..	..	1	1	..
Encephalitis (a)	1	..	..	..	..
Food Poisoning in Two or More Associated Cases (b) .. .. .	..	4	..	..	2
Gonorrhoea	190	209	117	75	116
Hydatids	13	17	8	17	8
Infantile Diarrhoea and Enteritis (a)	24	15	..	..	..
Infectious Hepatitis	276	569	552	400	319
Leptospirosis .. .. .	..	..	..	3	..
Malaria	6	..	..	2	1
Meningitis (a)	6	1	..	..	..
Nephritis	5	1	..	..	..
Ornithosis (b) .. .. .	..	1	..	..	..
Poliomyelitis .. .. .	..	..	1	..	..
Puerperal Fever (a)	1	..	..	..	..
Puerperal Pyrexia (a)	1	..	..	..	..
Rheumatic Fever (a)	27	5	..	..	..
Rubella (a)	219	55	..	..	..
Salmonella Infections (b) .. .. .	..	1	16	10	14
Scarlet Fever (a)	206	39	..	..	..
Serum Hepatitis (b) .. .. .	..	1	..	..	..
Shigella Infections (b) .. .. .	..	15	27	6	1
Syphilis	6	9	3	7	7
Tetanus .. .. .	..	..	..	1	2
Tuberculosis	61	54	60	48	48
Typhoid Fever (inc. Paratyphoid)	3	..	3	1	..
Urethritis	1	..	..	3	7
Total	1,052	996	790	r575	525

(a) From November 1967 these diseases were no longer notifiable.

(b) From November 1967 these diseases became notifiable.

Health Education

The Health Education Council is composed of representatives of the Division of Public Health, the Education Department, the Mental Health Services Commission, the Adult Education Board and several other interested persons. The Council's aim is public education by distribution of information on health matters.

National Fitness Section

This is concerned with putting into effect the Tasmanian National Fitness Council's policy, which is the promotion of community health and personal fitness; this involves the promotion and extension of physical recreation and amateur sport, fitness and training programmes, co-ordination of youth work, and assistance to existing youth and recreation groups. The main cost is met by the State Government (\$78,227 in 1970-71) and a small grant is made by the Commonwealth Government. Close contact is maintained with local government authorities and community organisations interested in the various aspects of community fitness and recreation. Assistance is given in the development of indoor recreation centres, camping facilities and programmes, amateur sports, outdoor activities such as canoeing, mountain and bush expeditions and adventure activities generally. Executive services are provided for the Duke of Edinburgh Award Scheme and for the Youth Council of Tasmania.

Mental Health Services Commission

Introduction

Significant advances have been made in the field of clinical psychiatry and in the treatment of mental illness during the past three decades. The development of psychotropic drugs, new therapeutic techniques and improved methods of clinical practice have revolutionised the mental hospital from an institution for the incarceration of lunatics to a modern hospital geared to the care and rehabilitation of the sufferers of psychiatric disorders.

Administration

The Mental Health Services Commission was established under the *Mental Health Services Act* 1967, following an interdepartmental investigation into psychiatric services in Tasmania. The Commission comprises three members: a Medical Commissioner (who also holds the post of Director of Psychiatric Services), a Clinical Commissioner (being Professor of Psychiatry at the University of Tasmania) and an Administrative Commissioner. Since 1 July 1968, the Commission has operated as a statutory authority, completely separate from the Department of Health Services.

Ultimately, the Mental Health Services Commission aims to provide integrated community services and to this end has established acute psychiatric units at Launceston, Wynyard and Devonport. These regional units are closely linked to the public hospital complexes.

In 1971 the psychiatric unit at the Royal Hobart Hospital became fully operational providing facilities for the investigation and treatment of mental illness in both in-patients and out-patients.

The principal institution under the control of the Commission is the Royal Derwent Hospital.

Royal Derwent Hospital

The following table shows the number of patients who were admitted, discharged or who died:

Royal Derwent Hospital
Number of Patients Admitted and Discharged, and Deaths, 1970-71

Particulars	Males	Females	Total
Patients at Beginning of Year	484	484	968
Patients Admitted—			
First Time	246	153	399
Re-admitted	189	212	401
Returned from Leave	58	39	97
Total	493	404	897
Patients Discharged, etc —			
Discharged from Hospital	295	257	552
Proceeded on Leave	188	115	303
Died	27	43	70
Total	510	415	925
Patients at End of Year	467	473	940

The following table shows the diagnosis of mental illness of patients in the Royal Derwent Hospital:

Royal Derwent Hospital (a)
Diagnosis of Mental Disorder of Patients, 1970-71

Mental Disorder	Patients Admitted (b) 1970-71			Patients at 30 June 1971		
	Males	Females	Total	Males	Females	Total
Senile and Pre-Senile Dementia ..	20	37	57	17	78	95
Alcoholic Psychosis	5	3	8	9	4	13
Psychosis with Intracranial Infection ..	..	..	..	2	1	3
Psychosis With Other Cerebral Condition ..	14	5	19	11	13	24
Psychosis With Other Physical Condition ..	..	2	2	1	..	1
Schizophrenia	52	51	103	138	95	233
Affective Psychoses	14	48	62	11	23	34
Paranoid States	1	4	5	10	12	22
Other Psychoses	2	4	6	..	..	..
Neuroses	33	75	108	2	15	17
Personality Disorders	56	31	87	17	9	26
Alcoholism	171	38	209	32	3	35
Drug Dependency	5	21	26	1	3	4
Transient Situational Disturbances ..	4	4	8	..	..	..
Behaviour Disorders of Childhood ..	14	6	20	7	4	11
Mental Disorder not Specified as Psychotic Associated with Physical Conditions	5	4	9	9	5	14
Mental Retardation—Borderline ..	3	1	4	8	12	20
Mild	6	4	10	28	23	51
Moderate	10	11	21	62	62	124
Severe	10	10	20	57	71	128
Profound	5	3	8	30	33	63
Unspecified	1	1	2	15	6	21
Other	4	2	6	..	1	1
Total	435	365	800	467	473	940

(a) Includes Millbrook Rise Hospital.

(b) Excludes those returned from leave.

Other Institutions

Hobart: Clare House Day Hospital was established in 1964 for the assessment and treatment of alcoholics. Its role has since been broadened to encompass a wide range of psychiatric disorders. Attendance rates have increased yearly: in 1970-71 406 new patients sought treatment, while 3,319 out-patients and 3,863 day patient visits were made.

The Combined Children's Centre was opened in February 1968 for the treatment of psychiatrically disturbed children referred to the Centre by private medical practitioners, the Royal Hobart Hospital, Social Welfare Department, School Medical Service and the Guidance Branch of the Education Department. At 30 June 1971 there were 502 children under treatment.

The Day Minding Centre was opened in September 1968 to care for severely mentally retarded children, many of whom are also physically retarded. At 30 June 1971 30 children were enrolled at the Centre.

Launceston: The Lindsay Miller Clinic at the Launceston General Hospital reported the following attendance figures during 1970-71: out-patient visits, 4,522; day patient visits, 1,316; in-patients, 448.

North-West: In-patient facilities are provided at the Mersey General Hospital and the Spencer Division of the North-Western General Hospital.

Various centres provide facilities for out-patient treatment on the north-west coast. During 1970-71, the North-Western General Hospital, Spencer Division treated 823 out-patients; Burnie Division, 1,373; Smithton District Hospital, 188; Devonport and Ulverstone Clinics, 1,579.

Division of Tuberculosis

The Division is concerned with diagnosis, treatment and after-care. Under a Federal arrangement the Tasmanian Government conducts a campaign against T.B. and is reimbursed by the Commonwealth Government for approved capital and maintenance expenditure.

An allowance is paid by the Commonwealth Department of Social Services to T.B. sufferers to encourage them to give up work, to minimise the spread of the disease, and to provide a basis for better treatment. The allowance is subject to a means test on income (but not on property) and provides \$18.25 a week for a single person in hospital and \$21.50 weekly while at home; married sufferers at home or in hospital are paid \$35.25 per week plus \$4.50 for each dependent child.

Patients are treated at the Tasmanian Chest Hospital (New Town). The X-ray campaign has led to a reduction in demand for in-patient treatment and to generally shorter periods in hospital.

The following table shows the confirmed diagnosis of tuberculosis cases notified in Tasmania over a five-year period:

New Cases Notified to Tuberculosis Division
Classification by Diagnosis and by Sex

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Pulmonary Males	36	31	37	25	30
Females	13	12	12	12	8
Tuberculosis Pleural Effusion Males	..	1	..	2	..
Females	..	..	..	..	..
Tuberculosis Meningitis .. Males	..	..	..	..	1
Females	..	..	..	1	..
Primary Tuberculosis .. Males	1	..	..	..	..
Females	1	..	..	..	..
Non-Pulmonary Cases .. Males	3	2	5	3	2
Females	4	2	3	3	4
All New Cases .. Males	40	34	42	30	33
Females	18	14	15	16	12
Persons	58	48	57	46	45

State Controlled Hospitals

General

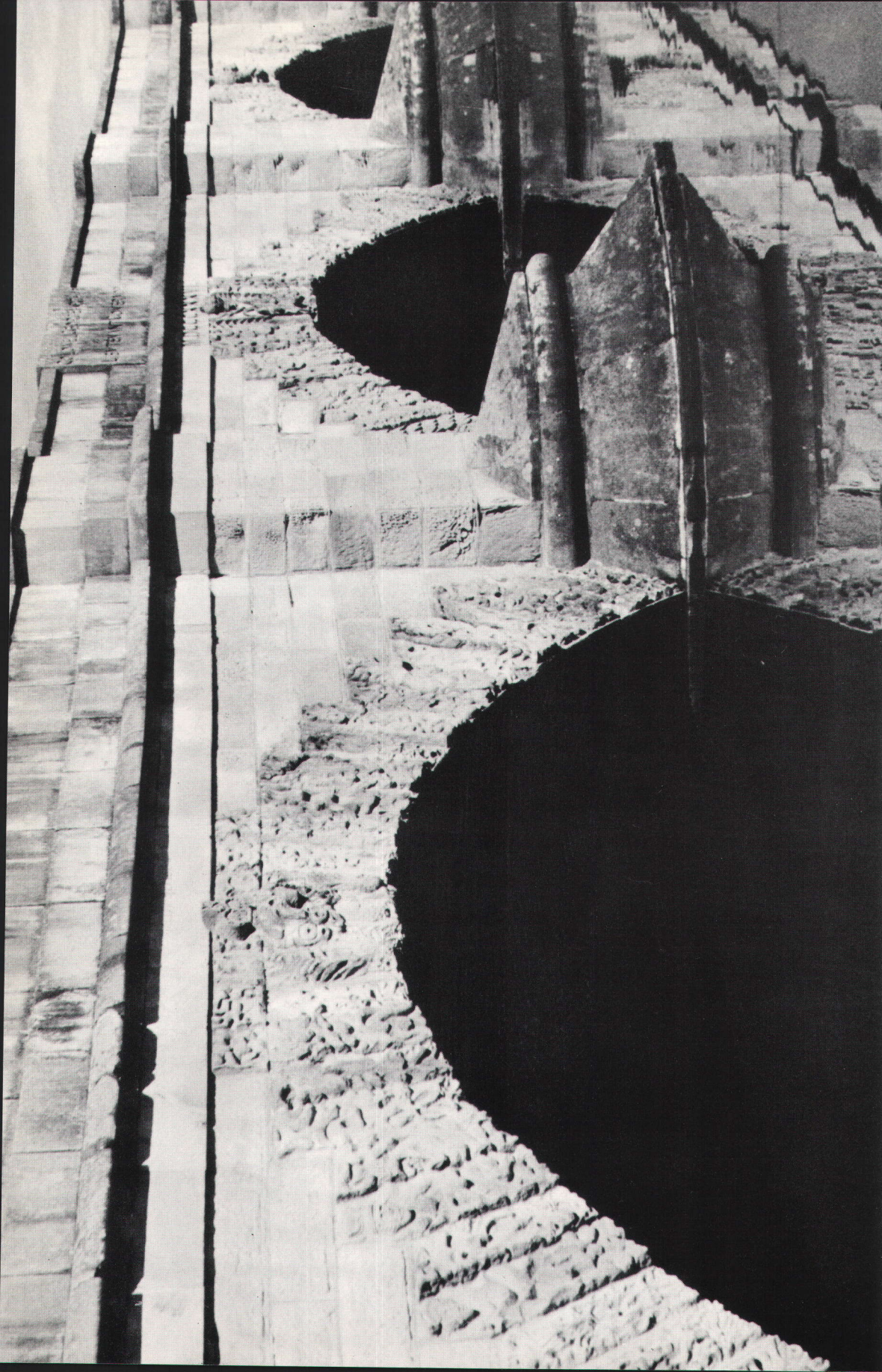
In Tasmania, medical establishments include hospitals, nursing homes, geriatric establishments, convalescent homes, orthopaedic units, etc. Some are privately administered while the State Government accepts the major financial responsibility for others; in the case of the latter group, control is either direct or exercised through hospital boards.

Institutions controlled by the State include four general hospitals, 14 district hospitals, 13 district nursing hospitals with bed accommodation, one mental hospital, two maternity hospitals, one chest hospital and three hospitals for the aged. (The Department of Health Services directly administers the Chest hospital and one hospital for the aged.) These institutions could all legitimately be described as 'public'. However, in the tables in this section, the term 'public' is applied only to the general and district hospitals, the other types of institutions being specified separately.



Scene from 'The Beggar's Opera' Theatre Royal

[Mercury]



Historic Ross Bridge over Macquarie River

[K. Antonysen]

General Hospitals (Public)

Hospitals providing all facilities and specialised treatment are the Royal Hobart, Launceston General, Mersey General (at Latrobe) and North Western General (with divisions at Burnie and Wynyard). The Queen Alexandra (Hobart) and the Queen Victoria (Launceston) are maternity hospitals.

Specialist treatment is available at general hospitals in obstetrics, gynaecology, orthopaedics, urogenital surgery, plastic and reconstructive surgery, neuro-surgery and neurology, radiology, pathology, radiotherapy, psychiatry and ophthalmology; skin diseases and venereal diseases are also treated and clinics operate in thoracic medicine and surgery. An emergency obstetrical service, with specialists based in Hobart and Launceston, provides a free service to the smaller public hospitals, district nursing hospitals and district medical officers outside the two cities.

The Lady Clark Hospital, an annexe of the Royal Hobart Hospital, is a rehabilitation and physiotherapy centre with both in-patient and out-patient facilities.

The Peacock Convalescent Hospital in Hobart is run by a committee of management, most of its patients being referred from the Royal Hobart Hospital.

All district nursing hospitals, formerly administered by the Department of Health Services, have been administered as annexes by various general or district hospitals since 1 July 1968, the parent hospital in each case being selected on a geographical basis.

Fees

The daily general ward fees charged in the State-controlled hospitals are not much lower than those charged in multiple bed wards in private hospitals. However, the former fees are all-inclusive (i.e. covering medical attendance, surgery, although additional charges may be made for radiology, pathology and electroencephalography) while the latter cover only accommodation and general nursing. Under the 'personal patient' scheme, a patient in the Hobart and Launceston general hospitals may have his own doctor, if he is an honorary doctor at the hospital, for the payment of an additional fee. Voluntary insurance with hospital fund organisations plus Commonwealth hospital benefits enable most patients to meet the fees charged.

Hospitals for the Aged and Invalid

The State Government administers three hospitals caring for the aged and for invalids. In the table that follows, the distinction is made between 'general' and 'hospital' beds; 'general' refers to beds available for inmates not receiving treatment in the hospital sections of the institutions.

Government Hospitals for the Aged, 1970-71

Institution	Average Daily Number of Inmates			Beds Available		
	Males	Females	Total	General	Hospital	Total
Cosgrove Park (a)	116	118	234	141	134	275
St John's Park	249	198	447	187	309	496
Spencer (b)	13	18	31	10	25	35
Total	378	334	712	338	468	806

(a) Cosgrove Park is administered as part of the Launceston General Hospital.

(b) This is a geriatric wing of the Wynyard Division of the North-Western General Hospital (previously the Spencer Hospital).

It is planned to develop St John's Park (the southern State geriatric hospital) into a comprehensive complex of services, including in-patient services for children and adults requiring hospitalisation because of all forms of disablement e.g. spastic diseases, mental retardation, crippled children and other handicapped persons and disabled persons generally. Domiciliary and day hospital therapeutic and home help facilities will be based on this general 'rehabilitation' complex.

The co-ordination of services will be compatible with the most economic and effective use of skilled, especially qualified paramedical staff.

District Hospitals (Public)

These do not provide the diverse range of services available in the general hospitals, and do not have resident medical officers. They are located at Beaconsfield, Campbell Town, Currie, Franklin, Longford, New Norfolk, Ouse, Queenstown, Rosebery, Scottsdale, Smithton, St Marys, Ulverstone, and Whitemark.

Finances of State Controlled Hospitals

The following table gives a financial summary of the operation of State controlled hospitals and hospitals for the aged ('public' hospitals in the table include general and district hospitals):

State Controlled Hospitals and Hospitals for the Aged
Receipts and Payments (a) 1970-71
(\$'000)

Particulars	Hospitals (excluding Mental)				Mental Hospital	Hospitals for the Aged
	Public (b)	Chest	Maternity (c)	Total		
Receipts—						
Government Aid—						
State	9,815	..	575	10,390	2,505	1,353
Commonwealth	988	240	8	1,237	42	552
In-Patient Fees	3,083	..	458	3,541	345	348
Out-Patient Fees	436	..	..	436	..	..
Other	39	..	1	39	48	15
Total	14,360	240	1,042	15,643	2,940	2,267
Payments—						
Salaries and Wages	10,201	198	763	11,162	2,215	1,752
Provisions	706	(d)	71	(d)	(d)	199
Domestic Supplies	1,040	(d)	107	(d)	(d)	180
Dispensary, etc.	1,437	(d)	34	(d)	(d)	40
Other	937	(d)	65	(d)	(d)	97
Total	14,321	240	1,040	15,601	2,940	2,267

(a) Excludes expenditure from State Loan Fund.

(b) Includes maternity wards in public hospitals. Excludes Zeehan District Hospital which closed on 31 December 1970.

(c) Excludes maternity wards in public hospitals.

(d) Not available on a comparable basis; included in 'Total'.

Staff and Patients in State Controlled Hospitals

The following table gives a summary of the main statistics relating to staff and patients in State controlled hospitals and hospitals for the aged:

**State Controlled Hospitals and Hospitals for the Aged
Staff, Accommodation and In-Patients**

Particulars	Hospitals (excluding Mental)		Mental Hospital		Hospitals for the Aged	
	1969-70	1970-71	1969-70	1970-71	1969-70	1970-71
Hospitals and Homes no.	22	21	1	1	3	3
Nursing Staff—						
Males	44	47	173	181	103	111
Females	1,981	1,865	171	179	183	195
Beds Available no.	2,224	2,203	1,030	1,030	839	806
In-Patients—						
Total Number Treated—						
Males	19,090	19,111	1,022	977	576	608
Females	27,802	29,098	963	888	479	484
Daily Average Number of Patients During Year—						
Males	580	580	485	469	371	378
Females	820	841	457	479	345	334
Persons	1,400	1,421	942	948	716	712
In-Patient Costs—						
Total \$'000	12,067	13,611	2,524	2,940	1,920	2,267
Daily Average Per Patient .. \$	23.62	26.24	7.34	8.49	7.35	8.72

Private Medical Establishments

The above establishments, 66 in number, are operated by charitable and church organisations and by private individuals or organisations. Most are concerned with care of the aged but five are hospitals with a more general purpose.

All 66 are registered under Part III of the *State Hospitals Act* but five are also registered under the Federal *National Health Act* as hospitals. These are Calvary, St John's and St Helen's in Hobart, and St Luke's and St Vincent's in Launceston, all providing medical and surgical services. Of the remaining 61 establishments, 47 are licensed to provide nursing home care; and 14 to provide accommodation for ambulant patients only.

The largest units in the non-hospital group are: Hobart area, St Ann's Rest Home (99 beds), Freemasons Homes (93), Mary's Grange (91), Strathaven Lodge (89), Queen Victoria Home for the Aged (80); Launceston area, Ainslie House (95); north-western area, Meercroft Home for the Aged (84), Eliza Purton Home for the Aged (80).

State Health Laboratory

The State Health Laboratory is under the control of the Director of Pathology. Apart from providing certain pathological services to the Royal Hobart Hospital, other hospitals and to doctors, the laboratory provides special bacteriological and cytological services.

The Laboratory is located at the Royal Hobart Hospital; prior to 1965 special tests had to be done in Melbourne, but equipment installed in that year now enables all work to be done in Tasmania. Magnifications of 100,000 diameters can be gained with the electron microscope and this is particularly useful in medical teaching and in diagnosis. Specimens from suspected T.B. sufferers, discovered in the compulsory chest X-ray programme, are examined and uterine and other cancers can be discovered by the Papanicolaou smear test. Tasmania was the first Australian State to introduce this test on a large scale; early diagnosis by this simple and effective method, particularly in women who show no symptoms, usually makes possible the cure of this type of cancer. Mass screening of new-born babies is done to correct errors of inborn metabolism, especially phenylketonuria. Other work includes analysis of food, water and milk samples.

Government Analyst and Chemist Laboratory

This laboratory analyses a wide variety of foods, drugs and other substances and undertakes work for Government departments and the public. Its work includes food and agricultural chemistry, forensic chemistry and toxicology, analyses for industrial hygiene purposes, water and corrosion problems, and other matters such as blood alcohol examinations for *Road Safety (Alcohol and Drugs) Act* purposes.

Other Health Matters

Child Health Institutions

These are medical institutions run by the State or subsidised by public funds. They provide treatment and supervision along with general education. The Sight Saving School, School for the Deaf, School for the Blind, Talire (for retarded children) and Wingfield (for orthopaedic patients) are government institutions for children with particular defects.

Ambulance Services

The Ambulance Commission of Tasmania co-ordinates services throughout the State and is responsible to the Minister for their effective operation. Ambulance Boards, centred on Hobart, Launceston, Devonport and Burnie, control services in the adjacent local government areas. A few municipalities, however, operate services outside the *Ambulance Act*. The total Government grant to ambulance services, both under Board and independent control, was \$157,500 in 1971-72.

Ambulance services under control of the four Boards provide free transport for ratepayers, occupiers and pensioners. In addition to receiving Government subsidies, their income is derived from fees (payable by visitors) and municipal grants.

The Ambulance Commission has adopted the training standards of the Victorian Ambulance Officer's Training School.

Royal Flying Doctor Service

This was established in Tasmania in 1960 and has as its purpose the provision of medical and dental services to persons in isolated areas. If the illness or injury is serious, a doctor flies to the patient and if necessary brings him back to hospital. The ambulance services receive the calls, make arrangements to charter aircraft and supply medical equipment. The Commonwealth and State Governments make an annual grant towards operational expenses.

Blood Transfusion Service

Prior to 1954, the Australian Red Cross Society, which operates the Service, was assisted only by the State Government; since then, a grant equal to 30 per cent of operating expenses has been made by the Commonwealth Government and 60 per cent by the State. The combined grant in 1971-72 was \$90,000.

Municipal Health Functions

Municipal councils and city corporations possess wide powers and responsibilities in public health. They organise triple antigen immunisation campaigns against diphtheria, whooping cough and tetanus, and vaccinations against poliomyelitis and smallpox. (These are available without charge to children under 17 years.) They control the condemnation of sub-standard dwellings, the effective disposal of sewerage and drainage, the provision of garbage and night soil services, the construction of reservoirs and the reticulation of water. A medical officer of health, often appointed by two councils, is responsible, among other things, for inquiring into the causes, origins and distribution of diseases; for investigating influences affecting the public health of the district; for directing and supervising the municipal health inspectors in the execution of the *Public Health Act*; for inspection of local certificates of notification of infectious disease and direction of control of such disease; for reporting the existence of any nuisance and inspection of any animal carcass, provisions of food for sale for human consumption; and for inspecting any premises where milk or milk products are produced or stored and for reporting on health of inmates or animals on the premises.

Commonwealth Department of Health

General

The Department is concerned in Tasmania with the maintenance of a quarantine service involving supervision of persons, animals, plants and goods from overseas; the provision of hospital, nursing home, handicapped children's, medical and pharmaceutical benefits; the payment of grants for free milk to school children; the pensioner medical service; tuberculosis allowances; home nursing, mental institutions and other subsidies; the control and maintenance of health laboratories at Hobart and Launceston; the Acoustic Laboratories in Hobart and Launceston; co-operation with the State Department of Health Services in planning and taking measures to improve public health, including the anti-tuberculosis and anti-poliomyelitis campaigns, and National Fitness; the conduct of certain medical examinations; and the supervision of the medical aspects of radio and television advertising and talks on medical matters.

Commonwealth National Health Payments

The following table shows the total Commonwealth payments for the various health benefits and services in Tasmania:

Commonwealth National Health Payments (a)
(\$'000)

Benefit or Service	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Hospital Benefits	1,235	1,289	1,518	1,590	1,787	1,803
Nursing Home Benefits	756	761	800	1,010	1,393	1,512
Medical Benefits—						
General	1,140	1,195	1,443	1,609	1,725	2,879
For Pensioners	386	406	460	491	580	639
Pharmaceutical Benefits—						
General	1,379	1,526	1,438	1,722	1,870	2,224
For Pensioners	637	802	850	1,030	1,125	1,231
Payments to Hospitals	713	538	602	706	739	919
Handicapped Children's Benefit (b) ..	..	..	..	5	16	18
Tuberculosis Campaign (c)	422	404	401	428	402	412
Free Milk Scheme	398	442	503	421	466	671
Miscellaneous	82	104	101	112	119	138
Total	7,148	7,467	8,116	9,124	10,222	12,446

(a) Payments from National Welfare Fund and minor items of expenditure from Consolidated Revenue Fund.

(b) Introduced from 1 January 1969.

(c) Includes allowances to persons and reimbursements to State Government for approved expenditure.

Pensioner Medical Service

Free general practitioner medical treatment is available for most age, invalid, widow and service pensioners and their dependants (the exclusion relates to those admitted to pension by liberalisation of the means test in October 1969). Entitlement cards for these benefits are issued by the Social Services Department (or by the Repatriation Department in respect of service pensioners). Eligible pensioners are treated free in out-patients departments and in standard wards of public hospitals.

Commonwealth Acoustic Laboratory

The main function of the Laboratory is the provision and maintenance of hearing aids, without charge, to deaf school and pre-school children, and to those whose hearing loss was discovered after leaving school, but who are still under 21 years of age. It also provides and maintains hearing aids on behalf of the Repatriation and other Commonwealth departments and assists the Education Department in measuring deafness by providing and maintaining portable audiometers. In addition, the Laboratory supplies eligible pensioners with hearing aids on hire (for a single payment of \$10) and gives the necessary technical services for fitting, re-adjusting, maintaining, etc.

Commonwealth Health Laboratories

These laboratories, situated in Hobart and Launceston, provide free diagnostic services for medical practitioners and hospitals. Included in the services available are haematology, histopathology, serology, biochemistry, bacteriology and diagnostic cytology. The laboratories also undertake blood typing and cross-matching services for the Red Cross Blood Transfusion Centres.

Quarantine

Quarantine is administered by the Commonwealth and guards against the importation from overseas of human, animal and plant infection. The administration of safeguards against infection from interstate travel and trade is left to the States unless Commonwealth action is necessary for the protection of a State.

Under Commonwealth-State arrangements, the Commonwealth Government has arranged to reimburse State Marine Boards the cost of installing incinerators at first ports of entry for overseas ships. The incinerators are used to dispose of overseas ships' garbage, reducing the possibility of introduction of diseases. Incinerators are installed at all Tasmanian first ports of call.

National Health Benefits

General: A basic principle in the provision of medical and hospital benefits is Commonwealth support for voluntary insurance against the costs involved. Registered health insurance organisations collect contributions from members and refund all, or a proportion, of hospital charges depending on what rate of benefit the patient has insured. The organisations refund a proportion of doctors' charges. In addition, the organisations act as paying agents for the Commonwealth component of the medical and hospital benefits: non-contributors to organisations receive from the Commonwealth a reduced rate of hospital benefit and no medical benefit. Dual membership of either registered medical or hospital benefits organisations is not permitted.

A Special Account system provides an assured rate of benefit to contributors who would otherwise have been excluded because of organisations' rules relating to pre-existing ailments, chronic illnesses and maximum organisation benefits; payments made by organisations under this provision are reimbursed by the Commonwealth.

Medical Benefits: In 1970 important amendments to the *National Health Act 1953-69* introduced a new national medical benefits scheme based on the principle of a 'most common fee'. A list of fees representing those most commonly charged by doctors in each State was compiled, following a survey undertaken before finalising the new medical benefits scheme. From 1 July 1970 contributors to a registered medical benefits fund, whose doctor charges the 'most common fee', pay no more than \$5 for any service, ranging from 80c for a surgery visit to \$5 for a complicated surgical operation. The balance of the cost is then shared between the health fund and the Commonwealth Government. The old multi-table scheme has been replaced by a single table with contribution rates varying from State to State; in Tasmania most organisations have a weekly family rate of 50c and a single rate of 25c.

Hospital Benefits: These benefits are paid for all patients by the Commonwealth at a minimum rate of \$0.80 a day but if a person contributes to a hospital benefits organisation the Commonwealth benefit increases to \$2. The highest combined organisation and Commonwealth benefit in Tasmania is \$30.00 a day and the highest family rate of contribution is \$2.20 a week.

Subsidised Medical and Hospital Services: The Commonwealth also provides special financial assistance in the following cases:

- (a) Low income benefit: (i) a family with an income of \$51.50 (gross) or less: free medical benefits and public ward hospital cover; (ii) gross family income above \$51.50, but not exceeding \$54.50: medical benefits and public ward hospital cover for one-third of the normal health insurance contribution; (iii) gross family income above \$54.50, but not exceeding \$57.50: benefits as above, but for two-thirds of the normal health insurance contribution. (The above income figures were operative from 5 June 1972.)

(b) Persons receiving unemployment, sickness or special benefits under the *Social Services Act*: full medical benefits and public ward hospital cover.

(c) Migrants: full medical benefits and public ward hospital cover during the first two months in Australia, providing the migrant has joined a medical benefits fund.

Nursing Home Benefits: The Commonwealth pays a benefit of \$3.50 per day direct to the homes for each qualified patient and a further \$3.00 a day for patients classified as requiring intensive care. Nursing Homes are required to deduct the Commonwealth payment from patients' accounts. The institutions need to be approved as nursing homes under the *National Health Act*. Patients do not have to be insured with a hospital benefits organisation and there is no time limit on the payment of benefits. The Commonwealth payment for 1970-71 was \$1,512,000.

Handicapped Children's Benefit: A benefit of \$1.50 per day is paid for each handicapped child (to 16 years) in approved institutions.

Hospital and Medical Benefit Payments: Commonwealth hospital benefit payments are made on a hospital bed-day basis as follows: insured patients, \$2; uninsured, 80c; pensioner patients, \$5. The following tables show payments by the Commonwealth, and also by the health insurance organisations (referred to as 'Fund Benefits') in Tasmania, together with details of the number of such organisations and their membership.

Hospital Insurance: Members and Benefits

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Registered Organisations (a) .. no.	9	9	9	9	10
Members (a) '000	114	118	115	118	118
Hospital Benefits Paid—					
Commonwealth Benefits—	\$'000	\$'000	\$'000	\$'000	\$'000
Insured Patients (b)	670	688	709	710	868
Uninsured Patients (c)	46	47	45	46	33
Hospitalisation Free of Charge .. ..	..	..	..	..	4
Pensioner Patients (c)	572	783	836	984	1,048
Subsidised Medical Service Patients .. ..	..	..	..	47	173
Total	1,288	1,518	1,590	1,787	2,126
Fund Benefits (d)	2,290	2,925	3,228	3,310	3,701

(a) At end of year.

(b) Includes Special Accounts deficits.

(c) Paid direct to hospitals by Commonwealth.

(d) Includes Ancillary Benefits: certain supplementary services for which a Fund Benefit payment, but no Commonwealth payment is made, e.g. home nursing, physiotherapy, provision of spectacles, orthoptics, chiropractice.

Medical Insurance: Members and Benefits

Particulars	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Registered Organisations (a) .. no.	10	9	9	9	9	10
Members (a) '000	114	110	115	113	116	118
Medical Services During Year .. '000	802	818	962	1,065	1,165	1,174
Medical Benefits Paid—						
Commonwealth Benefits .. \$'000	1,140	1,195	1,446	1,609	1,725	2,879
Fund Benefits (b) \$'000	1,256	1,336	1,436	1,704	1,916	1,997

(a) At end of year.

(b) Includes Ancillary Benefits—see note (d) in preceding table.

Pharmaceutical Benefits: Under this scheme, drugs and medicines for patients, who are required to pay a flat charge of \$1, can be prescribed by a medical practitioner or by a hospital. Not all drugs and medicines can be supplied under this scheme, but the Health Departments' list of approved pharmaceutical preparations is extensive. Under this scheme basic rate pensioners receive their pharmaceutical requirements free of charge, while persons holding an appropriate entitlement certificate under the Subsidised Health Benefits Plan are only charged 50 cents.

Commonwealth-Assisted Health Organisations

National Heart Foundation of Australia

This was established to promote research in cardio-vascular disease, to rehabilitate heart sufferers and to foster the dissemination of information about heart diseases. The State Division deals especially with rehabilitation and education. The State Government recognised the importance of this work by creating a Cardio-vascular Services section within its own Department of Health Services in 1967.

Hospital Morbidity

In the following tables particulars are given of all in-patients treated in Tasmanian public hospitals, who left hospital during 1971. Patients still in hospital at the end of 1971 will be included in figures for the year in which they leave hospital. Normal maternity cases are included, but babies born in hospital are excluded if they require only the routine care usual with the new born.

Treatment Statistics

The following table analyses patients by age group and length of stay in hospital:

Patients Treated in Public Hospitals: By Age Group and Average Length of Stay, 1971

Age Group	Males			Females		
	Number	Per Cent of Total	Average Length of Stay (Days)	Number	Per Cent of Total	Average Length of Stay (Days)
Days—						
Under 28	197	1.01	11	181	0.66	13
28-365	905	4.65	9	680	2.47	10
Years—						
1- 4	1,820	9.35	5	1,277	4.63	6
5- 9	1,413	7.26	5	1,049	3.80	5
10-14	1,118	5.74	6	822	2.98	6
15-19	1,436	7.38	8	2,822	10.24	7
20-24	1,341	6.89	7	4,931	17.89	7
25-29	891	4.58	9	3,540	12.84	8
30-34	814	4.18	9	2,041	7.40	8
35-39	744	3.82	10	1,365	4.95	9
40-44	923	4.74	10	1,159	4.21	11
45-49	972	4.99	10	1,099	3.99	11
50-54	1,175	6.04	12	1,007	3.65	11
55-59	1,229	6.31	13	980	3.56	13
60-64	1,200	6.16	14	977	3.54	15
65-69	1,060	5.45	14	1,011	3.67	15
70-74	873	4.49	16	883	3.20	17
75 and Over	1,355	6.96	18	1,738	6.32	23
Total	19,466	100.00	10	27,562	100.00	10

Children aged up to nine years comprised almost 22 per cent of males and 16 per cent of females discharged. The high numbers in this age group were due principally to children receiving treatment for diseases of the respiratory system; this disease group accounted for 2,486, or about one-third, of discharges of children under 10 years.

Accidents were the main cause of hospitalisation of males in the 15 to 34-year age group. Injuries caused by accidents, poisoning and violence accounted for 2,010 or 44 per cent of male patients in that age group.

The next table analyses the patients, shown in the previous table, by condition treated and by length of stay:

Patients Treated in Public Hospitals: By Condition Treated and Average Length of Stay, 1971

Principal Condition Treated	Males			Females		
	Number of Patients	Total Days in Hospital	Average Stay (Days)	Number of Patients	Total Days in Hospital	Average Stay (Days)
Infective and Parasitic Diseases ..	741	9,939	13	648	5,787	9
Neoplasms	1,005	15,562	15	1,189	19,577	16
Endocrine, Nutritional and Metabolic Diseases	259	3,575	14	412	6,006	15
Mental Disorders	789	9,302	12	1,132	15,668	14
Diseases of the—						
Blood and Blood Forming Organs ..	132	1,158	9	166	2,014	12
Nervous System and Sense Organs ..	839	9,448	11	821	9,349	11
Circulatory System	2,071	30,625	15	2,009	32,433	16
Respiratory System	2,916	20,871	7	2,253	14,954	7
Digestive System	2,056	18,524	9	1,875	18,461	10
Genito-Urinary System	951	9,349	10	1,840	12,859	7
Skin and Subcutaneous Tissue ..	378	3,364	9	319	2,813	9
Musculoskeletal System and Connective Tissue	796	10,634	13	740	10,938	15
Congenital Anomalies	360	3,172	9	232	2,570	11
Childbirth, Complications of Pregnancy and the Puerperium .. .. .	..	..	..	9,413	72,573	8
Certain Causes (a) of Perinatal Morbidity and Mortality	187	4,040	22	197	4,191	21
Symptoms and Ill-defined Conditions ..	1,288	6,428	5	1,240	7,367	6
Accidents, Poisoning and Violence ..	4,414	39,551	9	2,389	26,384	11
Other Special Admissions or Consultations	284	2,034	7	687	4,320	6
Total	19,466	197,576	10	27,562	268,264	10

(a) Includes toxæmia of pregnancy, conditions of placenta, birth injury, etc.

Comparable treatment statistics (in total only) for 1970 were:

- (i) Number of in-patients treated in public hospitals—males, 18,118 and females, 26,354.
- (ii) Total days in hospital—males, 205,837 and females, 275,961.
- (iii) Average stay in hospital—males, 11 days and females 10 days.

Examination of the above table reveals that the seeming imbalance between total male and total female patients is largely accounted for by one classification: 'childbirth, complications of pregnancy and the puerperium'. If data under this classification were eliminated, then male patients would outnumber female patients; the most significant classification explaining this

difference is 'accidents, poisoning and violence' where males outnumbered females about three to two. One underlying cause is the greater exposure of males to industrial and road traffic accidents.

Accidents, Poisoning and Violence

The previous table was compiled to show the conditions treated in extremely broad categories, but there are available more detailed dissections of each category. For example, the classification 'accidents, poisoning and violence' is analysed in terms of the external cause of the injury and the nature of the principal injury.

The following table deals with the patients in the class 'Accidents, Poisoning and Violence' (6,803 persons in total). (Of these 6,803 patients treated 4,414 (64.9 per cent) were males.)

Patients Treated in Public Hospitals: By External Cause of Principal Injury, 1971
(Number)

External Cause of Injury—	Nature of Principal Injury			
	Fracture	Dislocation or Sprain	Internal	Laceration
Accidents—				
Vehicle Accident—				
Railway	1	..	..	1
Road Vehicle—Motor Car Involving—				
Occupant	228	24	125	136
Pedal Cyclist	15	..	7	4
Pedestrian	131	5	35	37
Other Person (a)	318	37	171	224
Other	50	4	34	36
Water Transport	7	1	2	6
Air and Space Transport	2	..	..	..
Poisoning—Drugs and Medicaments .. .. .	..	..	..	..
Other Solid and Liquid Substances .. .. .	..	..	..	..
Gases and Vapours .. .. .	..	..	..	..
Fall—On or From Stairs, Steps, Ladders or Scaffold- ing	69	13	24	12
From One Level to Another	151	26	77	51
On Same Level	127	25	23	25
Other (a)	565	61	103	92
Conflagration .. .. .	..	..	..	..
Ignition of Clothing or Inflammable Material .. .. .	..	..	..	..
Fires—Controlled .. .. .	..	..	..	..
Other (a) .. .. .	..	..	..	..
Drowning and Submersion .. .. .	..	..	..	..
Firearm Missiles	8	..	4	18
Other Accidents (b)	364	234	208	822
Total	2,036	430	813	1,464
Other Occurrences—				
Suicide and Self-Inflicted Injury By—				
Poisoning—With Solid or Liquid Substances .. .. .	..	..	..	..
By Gases in Domestic Use .. .. .	..	..	..	..
Other Means	2	..	7	18
Homicide and Injury—				
Unlawfully Inflicted	69	1	29	62
Cause of Infliction Undetermined .. .. .	..	..	..	..
Total	71	1	36	80
Grand Total	2,107	431	849	1,544

Patients Treated in Public Hospitals: By External Cause of Principal Injury, 1971—*continued*

(Number)

External Cause of Injury	Nature of Principal Injury— <i>continued</i>				Total
	Adverse Effects of Medical Agents	Toxic Effects of Non-Medical Agents	Burn	Other (a)	
Accidents—					
Vehicle Accident—					
Railway .. .. .	..	..	..	..	2
Road Vehicle—Motor Car Involving—					
Occupant .. .. .	..	..	1	5	519
Pedal Cyclist .. .. .	..	..	..	..	26
Pedestrian .. .. .	..	..	..	1	209
Other Person (a) .. .. .	..	..	2	18	770
Other .. .. .	..	..	..	..	124
Water Transport .. .. .	..	..	..	5	21
Air and Space Transport .. .. .	..	..	..	..	2
Poisoning—Drugs and Medicaments	270	..	..	..	270
Other Solid and Liquid Substances .. .. .	..	120	..	..	120
Gases and Vapours .. .. .	..	14	..	..	14
Fall—On or From Stairs, Steps, Ladders, or Scaffolding .. .. .	..	..	..	1	119
From One Level to Another .. .. .	..	..	..	..	305
On Same Level .. .. .	..	..	..	1	201
Other (a) .. .. .	..	..	..	3	824
Conflagration .. .. .	..	..	2	..	2
Ignition of Clothing or Inflammable Material .. .. .	..	..	50	..	50
Fires—Controlled .. .. .	..	..	15	..	15
Other (a) .. .. .	..	..	20	..	20
Drowning and Submersion .. .. .	..	..	..	7	7
Firearm Missiles .. .. .	..	..	..	2	32
Other Accidents (b)	4	63	228	546	2,469
Total	274	197	318	589	6,121
Other Occurrences—					
Suicide and Self-Inflicted Injury By—					
Poisoning—With Solid or Liquid Substances	464	10	..	..	474
By Gases in Domestic Use .. .. .	..	1	..	..	1
Other Means .. .. .	..	1	..	5	33
Homicide and Injury—					
Unlawfully Inflicted .. .. .	..	..	2	4	167
Cause of Infliction Undetermined	7	..	..	..	7
Total	471	12	2	9	682
Grand Total	745	209	320	598	6,803

(a) Includes unspecified cases where applicable.

(b) Includes, as principal injuries, four under 'Adverse Effects of Medical Agents'; 290 under 'Complications of Medical or Surgical Care'; and eight under 'Other' which were due to surgical and medical complications and misadventures.

Operations: More than 18,000 operations were performed in public hospitals during 1971, the most frequent being appendicectomies, tonsillectomies, curettage of uterus, dilatation and curettage, cystoscopies, dental extractions and manipulation of closed fractures. The more frequently performed operations are shown in the following table:

*Social Welfare and Health Services***Principal Operations Performed, 1971**

Principal Operation Performed	Males			Females		
	Number of Patients	Total Days in Hospital	Average Stay (Days)	Number of Patients	Total Days in Hospital	Average Stay (Days)
Tonsillectomy and/or Adenoidectomy..	322	950	2.95	379	1,068	2.82
Dental Extraction	189	214	1.13	208	260	1.25
Oesophagoscopy	64	304	4.75	66	283	4.29
Bronchoscopy	86	1,194	13.88	44	501	11.39
Laparotomy	58	1,142	19.69	92	1,632	17.74
Repair of Inguinal Hernia	266	2,185	8.21	16	120	7.50
Appendectomy	391	2,884	7.37	356	2,711	7.62
Sigmoidoscopy	45	407	9.04	52	468	9.00
Cholecystectomy	86	1,421	16.52	215	3,061	14.24
Cystoscopy	253	1,880	7.43	175	1,002	5.73
Prostatectomy (All Types)	195	3,606	18.49	..	..	..
Hysterectomy (All Types) .. .. .	..	..	..	202	3,235	16.01
Curettage of Uterus .. .. .	..	..	..	650	2,198	3.38
Dilatation and Curettage .. .. .	..	..	..	482	1,643	3.41
Manipulation of Closed Fracture	224	2,710	12.09	167	2,109	12.63
Open Reduction with Fixation	147	4,693	31.93	108	5,199	48.14
Amputations	160	1,982	12.39	60	837	13.95
Stripping of Varicose Veins	39	423	10.85	127	1,181	9.30

Chapter 16

LAW, ORDER AND PUBLIC SAFETY

LAW IN TASMANIA

Origin and Evolution of Tasmanian Law

Original Charters

By letters patent and Royal instructions issued by King George III in 1787, Captain Arthur Phillip was authorised and empowered to constitute and appoint justices of the peace, coroners, constables, and other necessary officers and ministers for the better administration of justice and for executing the law in the colony of New South Wales (which then included what is now the State of Tasmania). A warrant for a Charter was issued to establish courts of civil and criminal jurisdiction. It provided that 'Our present and all Our future governors and lieutenant-governors and Our judge advocate for the time being shall be justices of the peace within the said place or settlement and that all and every such justice and justices of the peace shall have the same power to keep the peace, arrest, take bail, bind to good behaviour, suppress and punish riots, and do all other matters and things with respect to the inhabitants residing or being in the place or settlement aforesaid as, justices of the peace have within that part of the Kingdom of Great Britain called England within their respective jurisdictions'.

By a subsequent Charter in 1814 the Deputy Judge Advocate was added as a justice of the peace. Meanwhile, within a year of the occupation and settlement of Van Diemen's Land, warrants had been issued in 1804 appointing a justice of the peace for Van Diemen's Land and another justice of the peace at Port Dalrymple.

Supreme Court of Van Diemen's Land

In 1823 the Imperial Government passed, as a temporary measure, an Act empowering King George IV to institute a Court of Judicature to be styled the Supreme Court of Van Diemen's Land. It began its activities in May 1824, with Sir John Lewes Pedder as Chief Justice. The Court superseded the Lieutenant Governor's Court, of Civil jurisdiction only, which had been set up in 1815 under a Deputy Judge Advocate. In 1828 the Imperial Parliament passed the *Australian Courts Act* (usually known as the Huskisson Act). It empowered His Majesty, as a permanent measure, to establish the Supreme Court of Van Diemen's Land as a court of record having cognizance of all pleas, civil, criminal or mixed, and jurisdiction in all cases as fully as His Majesty's Courts at Westminster. The Court was constituted a Court of Oyer and Terminer and Gaol Delivery and was also granted equitable, admiralty and ecclesiastical jurisdiction.

Courts of General Sessions have a similar history in some respects as their creation by the Colonial Legislature was authorised by the Huskisson Act and they too are now regulated by the *Local Courts Act* 1896.

Other Imperial Statutes that need to be mentioned in connection with the origin and evolution of Tasmanian law are the *Australian Constitutions Act* 1850, which empowered the Colonial Legislature to make provisions for the better administration of justice and for defining the constitution of the Courts of Law and Equity and of juries within the Colony; and also the *Colonial Laws Validity Act* 1865 which recognised that a Colonial Legislature at all times had full power within its jurisdiction to establish Courts of Judicature, and to abolish and reconstitute them, to alter their constitution, and to make provision for the administration of justice in them.

The Huskisson Act also empowered the Colonial Legislature to constitute Courts of Quarter Sessions with power and authority to try in a summary way all crimes, misdemeanours and other offences or misconduct not punishable by death. The Legislature of Van Diemen's Land accordingly instituted Courts of Quarter Sessions, which were also given jurisdiction to hear appeals from justices of the peace. In 1857 the Colonial Parliament passed a further Act providing for the appointment of Recorders to hold Courts of General Sessions as Courts of Criminal Jurisdiction. Two years earlier it had passed the *Magistrates Summary Procedure Act* and the *Magistrates Criminal Procedure Act*, which defined the duties of Justices of the Peace concerning summary convictions and orders and persons charged with criminal offences. These latter two Acts were subsequently superseded by the *Justices Procedure Act* 1919 and finally by the *Justices Act* 1959. Courts of Quarter Sessions have long ceased to exist in Tasmania.

All persons convicted of offences before the Court were to be liable to suffer the same pains, penalties and forfeitures as persons similarly convicted in England. Offences were to be prosecuted by information in the name of the Attorney-General or other officers duly appointed by the Governor. By leave of the Court, however, a private person could bring a criminal information against another person.

The Huskisson Act also provided that all laws and statutes in force within the realm of England at the time of the passing of the Act should be applied in the administration of justice in the Courts of Van Diemen's Land so far as the same could be applied within the Colony. The Governor was given the power to resolve by ordinance such doubts as might arise as to the applicability of English law and to limit or modify such law. Until any such ordinance might be made, questions of doubt were to be settled by the Supreme Court.

Pursuant to the Huskisson Act, the Charter of Justice was granted by King William IV in 1831. By this Charter, the Supreme Court of Van Diemen's Land was created and constituted a Court of Record consisting of the Chief Justice and the Puisne Judge. The Huskisson Act had given the Judges power to make rules and orders regarding the practice and procedure in proceedings before the Court but, in 1854, the Legislature of Van Diemen's Land passed the *Common Law Procedure Act* which regulated all such matters and this Act was replaced many years later by the present statute, the *Supreme Court Civil Procedure Act* 1932.

Origin of Other Courts

The Huskisson Act empowered the legislature of Van Diemen's Land by laws or ordinances to institute Courts of Requests with power and authority to hear and determine, in a summary way, claims in debt or damages not exceeding \$20, to be held before a Commissioner to be appointed by His Majesty. In the exercise of this power the Colonial Legislature in 1829 passed an Act 'to institute Courts of Requests' and since that date a number of statutes dealing with the subject have been passed. Courts of Requests are now regulated by the *Local Courts Act* 1896.

Juries

Tasmanian legislation regulating juries seems to have been first passed in 1830 although, for many years before that date, the introduction of the British system of trial by jury in civil and criminal cases had been persistently urged in the colony. The *Hobart Town Gazette* shows that juries had been employed in the colony for the trial of criminal cases from the establishment of the Supreme Court in 1824. Juries remain as the tribunal for trying indictable criminal cases and there is a limited right to a jury in civil actions, although in 1935 they were abolished for the purpose of trying motor-accident cases.

Although the Tasmanian jury system was based on the English system it has, since 1934, embodied the principle of allowing *majority* decisions in certain circumstances instead of requiring the *unanimous* decisions once characteristic of jury usage in England and most other countries.

Civil cases have a seven-member jury and, if after three hours deliberation a seven-nil decision cannot be reached, a five-two decision is accepted. If the minimum five-two decision cannot be reached after four hours, the jury may be discharged.

In criminal cases, similar principles apply except that a 10-2 decision is accepted in lieu of 12-nil after stipulated periods of deliberation. In the case of murder, 12-nil is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

The Present Law Court System

Courts of Petty Sessions

For particular municipalities in the State, there is a Court of Petty Sessions. The Court is constituted by a stipendiary magistrate (who must be a legal practitioner or barrister for not less than five years) or by two or more lay justices. In major centres of population, a Court sits regularly and, in smaller centres, a Court sits less frequently or is convened as occasion requires.

A Court of Petty Sessions has jurisdiction over all summary offences and also over certain indictable offences at the option of the defendant. Under the *Justices Act* 1959, a defendant may choose summary trial in the Court of Petty Sessions when charged with the following crimes: (i) Escape or rescue; facilitating escape of a prisoner or harbouring an offender; assisting escape of a criminal lunatic; rescuing goods legally seized; making a false declaration (or statement). (ii) Stealing; killing an animal with intent to steal; unlawfully branding an animal; obtaining goods by a false pretence; cheating; fraud in respect of payment for work; receiving stolen property. (In all these cases the value of the property concerned must exceed \$20 but not \$400. If the value does not exceed \$20 the defendant will be tried summarily. If it exceeds \$400 he will be committed for trial in the Supreme Court.) (iii) Breaking a building other than a dwelling-house. (It is necessary for the defendant to be committed to the Supreme Court for trial where it is alleged that in the commission of the offence, property to the value of more than \$400 has been stolen; violence has been used or offered to any person in or about the building; the person had in his possession a gun, pistol, dagger, cosh, or other offensive weapon; explosives were used; or the defendant intended to commit a crime other than stealing.) (iv) Forgery; uttering. (The complaint must be for an offence in respect of a cheque for not more than \$400.)

The following table shows the number of cases tried in the lower courts over a five-year period. (Minor traffic offences settled without court appearance are excluded.)

Cases Tried in Lower Courts

Offence	1967	1968	1969	1970	1971
Offences Against—The Person Males	779	786	891	953	1,021
.. .. Females	25	14	32	34	36
Property Males	3,604	3,937	3,987	4,095	5,692
.. .. Females	342	441	335	397	469
The Currency Males	116	151	179	340	229
.. .. Females	73	72	21	31	79
Good Order Males	1,804	1,819	2,082	1,962	2,319
.. .. Females	76	100	107	70	148
Traffic Regulations Males	23,067	20,450	18,717	19,935	20,833
.. .. Females	1,391	1,264	1,130	1,097	1,269
All Other Offences (a) Males	10,098	8,906	8,551	7,185	9,241
.. .. Females	481	734	411	520	878
Total Offences Males	39,468	36,049	34,407	34,470	39,335
.. .. Females	2,388	2,625	2,036	2,149	2,879

(a) Includes offences mainly against liquor, education, neglected children, revenue, gambling suppression laws, desertion of wives and children, perjury and subornation and conspiracy.

The following table shows cases tried and their results (minor traffic offences settled without court appearance are excluded):

Lower Courts, 1971

Offence	Cases Tried	Results of Trials				
		Convic- tions	Committed to Higher Courts	Adjourned Sine Die	Dismissed or With- drawn (a)	Remanded
MALES						
Offences Against—The Person ..	1,021	606	137	104	147	27
Property	5,692	3,911	754	608	329	90
The Currency	229	183	38	3	5	..
Good Order	2,319	1,838	7	262	185	27
Traffic Regulations..	20,833	16,145	5	1,798	2,816	69
All Other Offences (b)	9,241	7,319	29	825	1,048	20
Total	39,335	30,002	970	3,600	4,530	233
FEMALES						
Offences Against—The Person ..	36	22	3	6	3	2
Property	469	298	77	67	25	2
The Currency	79	53	6	20	..	..
Good Order	148	110	..	19	16	3
Traffic Regulations..	1,269	881	..	140	248	..
All Other Offences (b)	878	665	..	76	137	..
Total	2,879	2,029	86	328	429	7
PERSONS						
Total	42,214	32,031	1,056	3,928	4,959	240

(a) 'Dismissed' is equivalent to 'not guilty' in higher courts.

(b) Includes offences mainly against liquor, education, neglected children, revenue, gambling suppression laws, desertion of wives and children, perjury and subornation and conspiracy.

Courts of Request

These are constituted as courts with civil jurisdiction for particular municipalities in accordance with the authority given by the *Local Courts Act* 1896. Courts are held before a commissioner, who is usually a stipendiary magistrate. The Attorney-General fixes the dates on which these courts sit.

Every Court has jurisdiction throughout the State but a plaintiff may lose costs if he brings his action in a Court other than the Court nearest to which the cause of action arose.

The jurisdiction of a Court of Requests, which is a court of record, covers all personal actions where the debt or damage claimed does not exceed the maximum amount fixed under the Act. Since 1 November 1966, the sum of \$1,500 has been fixed as the maximum jurisdiction for a Court of Requests in respect of a debt or liquidated sum, and \$1,000 in any other case.

The commissioner alone determines all questions of fact as well as of law and his decision is the judgment of the Court, unless a jury is required. In any action either party may require a jury as of right and there is power for the commissioner to order that an action be tried by a jury, even though neither party has required it.

Law and equity are administered concurrently in the Court and the general principles of practice in the Supreme Court are adopted and applied in cases not expressly provided for in the Act or Rules.

Courts of General Sessions

A Court of General Sessions with civil jurisdiction is constituted under the *Local Courts Act* 1896 for particular municipalities of the State. The cities are excluded, civil actions there being dealt with by Courts of Requests. A Court of General Sessions is constituted by a chairman (elected by the justices for the municipality) and at least one other justice. All questions are decided by a majority of the justices present and, if they are equally divided in opinion, the chairman has both a deliberative and a casting vote. If there is business requiring its attention, the Court sits at times fixed by the Attorney-General.

A Court of General Sessions has jurisdiction to deal with civil proceedings of a minor nature and the limit of the Court's jurisdiction has been fixed at the sum of \$100.

The Supreme Court of Tasmania

The Supreme Court of Tasmania is constituted by the Chief Justice and four Puisne Judges. Regular sittings of the Court are held at Hobart, Launceston and Burnie, although the Court is empowered to sit and act at any time and at any place for the exercise of any part of the jurisdiction and business of the Court.

The Court has jurisdiction over all causes, both civil and criminal, except those reserved to the High Court of Australia under the Commonwealth Constitution. It also exercises Federal jurisdiction in matters such as matrimonial causes, bankruptcy, etc. Its civil jurisdiction extends to all causes of action, whatever the amount involved may be, and its criminal jurisdiction includes the trial of all indictable offences. In civil cases, the Court has power to call in the aid of one or more assessors specially qualified to assist in the trial of the actions, but it is not bound by the opinion or advice of any such assessor.

There is an appeal to the Supreme Court of Tasmania from all inferior courts and from many statutory tribunals.

Law and equity are administered concurrently in the Court which is enjoined to grant, either absolutely or on such terms and conditions as seem just, all such remedies to which any of the parties may be entitled so that, as far as possible, all matters in controversy between the parties may be completely and finally determined, and a multiplicity of legal proceedings avoided. The Judges, on the recommendation of the Rules Committee, are empowered to make rules regulating the practice and procedure of all proceedings in the Court.

The jurisdiction of the Court is usually exercised by a Judge of the Court and from his decision there is an appeal to the Full Court of the Supreme Court of Tasmania. A Full Court consists of two or more Judges of the Court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. The latter is a Court to which appeals may be brought by the Crown or by an accused person where an indictable offence is involved. In some cases, there is an appeal as of right but, in other cases, special leave is required.

The following table shows the number of cases tried in the higher courts, and the number of convictions:

Supreme Court Actions, 1971

Offence	Cases Tried		Convictions	
	Males	Females	Males	Females
Offences Against the Person—				
Attempted Murder	2	..	1	..
Manslaughter—Other than While Driving	1	..	1	..
While Driving	4	..	3	..
Culpable Driving, incl. Causing Death by Dangerous Driving (Other than Manslaughter)	8	..	4	..
Rape	13	..	6	..
Other Unlawful Carnal Knowledge	35	..	28	..
Indecent Practices Between Males	4	..	4	..
Unnatural Carnal Knowledge	2	..	2	..
Abduction	1	..	1	..
Bigamy	1	..	1	..
Robbery	20	..	17	..
Malicious Wounding	7	..	3	..
Aggravated Assault	3	..	3	..
Common Assault	14	..	9	..
Other Offences Against the Person	9	..	7	..
Offences Against Property—				
Burglary; Break and Enter; Break, Enter and Steal ..	132	6	116	4
Receiving, incl. Possession of Stolen Goods ..	13	..	13	..
Fraud and False Pretences	15	..	13	..
Arson, n.e.i.	6	..	5	..
Stealing	153	4	136	3
Forgery and Offences Against the Currency	6	..	6	..
All Other Offences	18	..	17	..
Total (a)	467	10	396	7

(a) There are fewer Supreme Court Cases tried than the number committed from the lower courts would lead one to expect. This is because: (i) *complaints* often embrace several *offences* in the lower courts; (ii) some cases are not proceeded with. Higher court cases often proceed under different offences' titles from those under which the lower court committals were made.

The following table shows the number of convictions in the higher courts over a five-year period:

Supreme Court Cases: Convictions

Offences	1967	1968	1969	1970	1971
Offences Against—The Person	111	76	92	108	90
Property	137	150	177	212	290
Forgery & Offences Against the Currency ..	4	11	11	8	6
All Other Offences	2	6	12	9	17
Total	254	243	292	337	403

The High Court of Australia

This Court was created by the Commonwealth Constitution and it has both original and appellate jurisdiction. It is constituted by the Chief Justice of Australia and six other Justices.

There is an appeal as of right to the High Court from the Supreme Court of the State in any civil matter where the sum involved amounts to at least \$3,000 or where the decision under appeal affects the status of any person under the laws relating to aliens, marriage, divorce, bankruptcy or insolvency. In other cases (including criminal cases) there is an appeal to the High Court if leave or special leave is granted.

Sittings of the High Court of Australia are held in each capital city and one sitting is held in Hobart each year if the volume of business warrants it. Otherwise, Tasmanian cases are usually heard either in Melbourne or Sydney.

Privy Council

An appeal lies direct from the Supreme Court to the Privy Council in a civil action where the amount involved is not less than \$2,000 and in other cases an appeal may be heard by special leave. Special leave may also be obtained to appeal to the Privy Council from a decision of the High Court of Australia. However, as from 1 September 1968 the High Court of Australia became the final court of appeal in all cases involving Commonwealth law (i.e. in litigation involving laws of the Commonwealth, which was instituted after 31 August 1968, there is no right of appeal to the Privy Council).

Tribunals

There are many tribunals which are not true courts and the powers and functions of these depend upon the detailed provisions of the particular statute under which they operate. Certain specialised courts have been created by statute. For example, there is the Wardens' Court constituted under the *Mining Act* 1929 and the Licensing Court constituted under the *Licensing Act* 1932.

Coroners' Courts

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroners Act* 1957, a coroner may hold an inquest: (i) Concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly without the cause being known, or who died in a prison, or mental institution; at the direction of the Attorney-General, he may also be required to hold an inquest concerning any death. (ii) Concerning the cause of any fire if the Attorney-General has directed, or has approved a request by the owner or insurer of the property; or at the request of the Fire Brigades Commission or the Rural Fires Board.

The coroner usually acts alone in holding an inquest, but either the Attorney-General or the relatives of the deceased may request that a four or six-man jury be empanelled. After considering a post-mortem report the coroner may dispense with an inquest, unless the circumstances of death make an inquest mandatory under the Act.

The duty of the court is to determine who the deceased was, and the circumstances by which he came to his death. Medical practitioners and other persons may be summoned to give evidence. In the case of the death of an infant in a nursing home, the coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

Children's Courts

A 'child' in this jurisdiction is one under the age of 17 years. The Court, before finally disposing of the case, must receive a report from a child welfare officer (the representative of the Director of Social Welfare), unless the Court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.

In summary proceedings, the Court normally enters a conviction against a child only if it imposes a sentence of imprisonment but there may be special circumstances in some cases which persuade it to record a conviction.

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those under 14 years the maximum fine is \$20, and for those over 14 years, \$50. The Court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer. Alternatively, the Court may declare the child a ward of the State, placing him under the control of the Director of Social Welfare until his eighteenth birthday, unless released sooner; it may also direct that a ward be committed to an institution. In cases where further investigation appears necessary the court may issue a remand for an observation order before it makes a final decision. Remands for observation orders are for short periods and usually provide for intensive supervision. (In the case of delinquency the maximum period for such an order is three months.)

Neglected or uncontrolled children are in the Court's jurisdiction; it may make a supervision order; an interim order (similar to a remand for observation order, the effect being to defer the transfer of guardianship until it is apparent that there is no suitable alternative); or impose wardship or bind the parents over to provide proper care and control, and comply with other directions. If parents have contributed to a child's offence, by failing to control the child, they may also be charged, convicted, fined, ordered to pay for damage and obliged to enter into a recognizance for the good behaviour of the child for up to 12 months.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child. In addition to its ordinary sentencing powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the responsible Minister may direct that the sentence be served in a place other than a gaol.

Statistics of offences for which children were reported appear in Chapter 15 under 'Department of Social Welfare'.

Bankruptcy

On 4 March 1968, the Federal *Bankruptcy Act* 1966 (repealing the Act of 1924-1965) came into operation. The Federal Court of Bankruptcy generally exercises jurisdiction in N.S.W., A.C.T. and Victoria while the Supreme Court of Tasmania exercises Federal jurisdiction in Tasmania.

Under the new legislation, a person unable to meet his debts may voluntarily present to the Registrar in Bankruptcy a petition against himself and become a bankrupt under section 55; if the Registrar does not accept the petition and refers it to the Court, he may be directed to accept it. A creditor may apply to the court for compulsory sequestration of a debtor's estate where the debt is not less than \$500. Where a debtor becomes bankrupt:

- (i) his property, not being after-acquired property, vests immediately in The Official Receiver in Bankruptcy; and
- (ii) his after-acquired property vests in The Official Receiver in Bankruptcy, or if a private trustee has subsequently been appointed, then in that trustee.

A debtor may avoid sequestration, in some circumstances, by authorising a registered trustee to call a meeting of his creditors and take over control of his property; or by authorising a solicitor to call a meeting of his creditors (Part X). The debtor's property is controlled by the trustee until the creditors resolve otherwise, or the Court orders otherwise, or a deed of assignment or arrangement is executed, or a composition is accepted, or the debtor dies or becomes bankrupt.

A person becoming bankrupt under the Act may be automatically discharged from bankruptcy after the expiration of five years (section 149) unless discharged earlier by the Court. Undischarged bankrupts at 4 March 1968 were discharged three years later (4 March 1971) or five years from the date of the sequestration order, whichever was the later (unless discharged earlier by the Court). The Registrar, trustee or a creditor may lodge an objection to this type of discharge, and if it is not withdrawn the debtor must apply to the Court under section 150 if he desires to be discharged.

The following table shows the number of bankruptcies and private arrangements together with the assets and liabilities of debtors:

Tasmania: Bankruptcy Proceedings

Particulars	1967-68	1968-69	1969-70	1970-71	1971-72
Bankruptcies and Orders for Administration of Deceased Debtors' Estates—					
Number	71	100	121	123	156
Liabilities \$'000	299	602	589	839	1,090
Assets \$'000	101	247	359	227	438
Deeds of Assignment, Arrangement, Compositions and Schemes—					
Number	4	8	13	17	12
Liabilities \$'000	70	553	269	198	47
Assets \$'000	98	287	209	247	42
Total—					
Number	75	108	134	140	168
Liabilities \$'000	369	1,155	858	1,037	1,137
Assets \$'000	199	534	568	474	480

Trade Practices Tribunal

The Federal *Trade Practices Act* 1965 was passed 'to preserve competition in Australian trade and commerce to the extent required by the public interest'. Due to constitutional limitations of Commonwealth power, provision was made in the Act for co-operation between the Commonwealth and the States; each State could adopt complementary legislation. However, Tasmania chose to make reference to the Commonwealth Act; the State *Commonwealth Powers (Trade Practices) Act* 1966 enabled the Commonwealth to apply the Federal Act in Tasmania.

In 1971 the High Court upheld a challenge to the validity of the provisions of the Federal *Trade Practices Act* 1965-1969 relating to examinable agreements and practices, and for a short period there was no valid trade practices legislation, except for retail price maintenance provisions contained in the Federal *Trade Practices Act* 1971. This position was resolved by passing the Federal *Restrictive Trade Practices Act* 1971 which became effective from 1 February 1972.

The *Restrictive Trade Practices Act* 1971 defines agreements and practices which are examinable (broadly those agreements and practices which restrict competition between competitors) and requires the Commissioner of Trade Practices to maintain a register of such agreements. The Tribunal (consisting of a President and a number of deputy presidents drawn from the Federal judiciary, except High Court Judges) is empowered to examine such agreements and practices and may determine whether they are contrary to the public interest. If so, the Tribunal orders cessation of the agreement or practice. The new Act includes 'monopolisation' as an examinable practice. Parties to an agreement or practice may appeal against the Tribunal's determination, in which case a Review Division of the Tribunal is constituted to reconsider the matter. The 1971 *Restrictive Trade Practices Act* made it unlawful for any person or corporation to engage in resale price maintenance, e.g. where a supplier refuses to supply goods to a second party unless the latter agrees to sell the goods at a price not less than that specified by the supplier. Collusive tendering and bidding are both prescribed as offences against the Act. Finally the new legislation contains provisions designed to control and regulate activities of shipping conferences.

The Licensing Court

The State Licensing Court was set up under the *Licensing Act* 1932 and consists of a stipendiary magistrate (who is the chairman) and two Government nominees. The Court is empowered to hear and determine: (i) application for the granting of hotel and other liquor licences; (ii) applications for the registration or renewal of registration of clubs; and (iii) objections to the registration of clubs.

Since 1952 the *Licensing Act* has empowered the Court to determine the minimum standards of service, management, accommodation, structure and equipment which should apply to hotels, and also the qualifications required by persons holding or applying for licences.

The following table shows the total hotel bedroom accommodation available to the public during recent years:

Standard of Accommodation: Hotels					
Date		Total Number of Bedrooms	Number of Bedrooms Furnished with—		
			Private Bath, Showers, Toilets and Hand-basins	Handbasins with Hot and Cold Running Water	
31 Dec.—1957	.. ..	3,763	182	1,557	
30 June—1967	.. ..	3,599	937	2,164	
1968	.. ..	3,552	955	2,142	
1969	.. ..	3,525	1,073	2,020	
1970	.. ..	3,564	1,117	2,020	
1971	.. ..	3,566	1,228	1,950	
1972	.. ..	3,640	1,333	1,924	

Every hotel in Tasmania is visited annually by a member of the Court and the Court's inspectors and the public health inspector make a thorough examination of each hotel prior to the annual sittings at which renewals of licences are considered. Reports are furnished for the information of the Court and the Tourist Department. An officer of the Fire Brigades Commission also carries out an annual inspection to ensure that each hotel complies with the requirements of the Commission.

The following table shows the licences and club registrations operative:

Licensed Hotels, Restaurants, Clubs and Wholesale Licences										
At 30 June						Hotels (a)	Restaurants (b)	Registered Clubs	Wholesale Licences	Total
1966	..	..	..	..	..	271	..	131	29	431
1967	..	..	..	..	..	270	..	134	29	433
1968	..	..	..	..	..	267	..	138	29	434
1969	..	..	..	..	..	263	11	145	29	448
1970	..	..	..	..	..	264	16	146	30	456
1971	..	..	..	..	..	269	23	153	29	474
1972	..	..	..	..	..	269	22	156	29	476

(a) Includes a small number of premises not providing accommodation and known as 'taverns'.

(b) Includes motels which have a licence for dining rooms only.

The Ogilvie ministry introduced 10 a.m. to 10 p.m. bar trading hours before World War II and, in the post-war period, Tasmania's 10 p.m. closing contrasted with 6 p.m. closing in S.A., Victoria and N.S.W. However, these States have progressively liberalised their drinking laws, and by 1967 all had adopted late closing.

In 1967 the Tasmanian *Licensing Act* 1932 was amended to allow 11.30 p.m. closing on Friday and Saturday nights for those hotels which desire to observe these hours and which obtain the necessary permits; 10 p.m. closing is now the rule for other nights (excluding Sunday) with provision nevertheless to obtain extension permits for special functions. The permitted age for drinking on licensed premises has been lowered from 21 to 20 years; restaurants complying with defined conditions can now obtain licences to sell liquor (previously diners could take their own liquor to certain restaurants, but not buy it on the premises); licensed restaurants can open till 11.30 p.m. six nights a week. Dining accommodation, kitchen specifications, etc. for licensed restaurants are strictly supervised.

PRISONS

General

The establishment, regulation and conduct of prisons and the custody of prisoners in Tasmania are provided for under the *Prison Act* 1868 and 1908. Provision is made for the appointment by the Governor of a Controller of Prisons who is responsible for the supervision of gaols, including the initiation and implementation of correctional programmes for prisoners and staff training schemes.

Two justices of the peace are appointed for each institution each year to act as Visiting Justices. They visit the prison at least once per month to examine the treatment, behaviour and condition of prisoners, and the condition of the prison. They hear complaints with regard to offences committed in the gaol, and have power to punish offenders either by solitary confinement or by extending the term of imprisonment.

The main prison in Tasmania is at Risdon near Hobart, which has, as an outstation, the Farm Gaol at Hayes in the Derwent Valley. The prison at Launceston is limited in function, receiving only persons on remand or sentenced for periods not exceeding seven days. The Launceston Prison also functions as a holding centre for prisoners from the northern districts of the State prior to their transfer to Risdon.

The following table shows Prisons Department expenditure from Consolidated Revenue:

Prisons Department: Expenditure From Consolidated Revenue
('\$000)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Total Expenditure	683	781	816	858	986
Net Receipts (a)	18	(b) 42	4	42	25
Net Expenditure	664	739	812	816	961

(a) From prison industry and gaol farm activities described later in the text.

(b) Includes \$29,000 paid to the Prisons Department from a special State fire insurance trust fund towards the cost of fire damage.

Prisoners Received and Discharged

In the following table giving details of prisoners received into and discharged from Tasmanian prisons, no distinction is made between those on remand and those convicted and sentenced to imprisonment. (Figures for H.M. Prison, Risdon, include those held in custody at the Hayes Farm Gaol.)

Prisoners Received and Discharged (a), 1970-71

Particulars	Risdon Gaol		Launceston Gaol		Total	
	Males	Females	Males	Females	Males	Females
In Custody at 30/6/1970..	350	10	9	..	359	10
1970-71—						
Received	617	34	586	41	1,203	75
Transferred (b)	+410	+27	-410	-27	..	..
Discharged	973	65	180	14	1,153	79
In Custody at 30/6/1971	404	6	5	..	409	6

(a) Includes persons on remand.

(b) Transfers from Launceston to Risdon.

Age of Prisoners

Young offenders account for a high and rising proportion of receivals. The proportion of convicted male prisoners under 25 years was: 58 per cent in 1967-68; 59 per cent in 1968-69; 61 per cent in 1969-70; and 62 per cent in 1970-71. The following table shows the age of convicted prisoners received:

Ages of Convicted Prisoners Admitted to Gaol, 1970-71

Sex	Age Group (in Years)								Total
	Under 18	18 and 19	20-24	25-29	30-39	40-49	50-59	60 and Over	
Males	111	167	218	106	81	74	37	10	804
Females	7	11	9	3	6	3	4	2	45
Total	118	178	227	109	87	77	41	12	849

Prisoners' Offences

Approximately 40 per cent of the offences for which people were gaoled during 1970-71 involved 'stealing' and 'breaking and entering'. The following table shows the offences for which convicted prisoners were received:

Offences for Which Convicted Prisoners Were Received at Risdon Gaol During 1970-71

Offence for Which Convicted	Males	Females	Persons	
			Number	Proportion of Total
Stealing	626	24	650	per cent 26.4
Breaking and Entering	336	..	336	13.7
False Pretences	210	17	227	9.2
Driving Offences—				
Driving Whilst Licence Suspended	80	..	80	3.3
Dangerous Driving	24	..	24	1.0
Drunken Driving	21	..	21	0.9
Other	9	..	9	0.4
Unlawful Use of Motor Vehicle	126	..	126	5.1
House-Breaking	115	5	120	4.9
Assault	108	11	119	4.8
Failure to Pay Fine	76	2	78	3.2
Breach of Bond	68	1	69	2.8
Forgery	52	3	55	2.2
Damage to Property	53	..	53	2.2
Uttering	44	3	47	1.9
Drunk and Incapable	44	..	44	1.8
Burglary	40	..	40	1.6
Attempted House-Breaking	31	..	31	1.3
Vagrancy	27	3	30	1.2
All Other	295	7	302	12.3
Total (a)	2,385	76	2,461	100.0

(a) The number of offences exceeds the number of prisoners received since some prisoners were convicted of multiple offences.

The next table classifies convicted prisoners according to the number of their previous convictions:

Convicted Prisoners Received at Risdon Gaol During 1970-71, According to Number of Previous Convictions (a)

Prisoners	Number of Previous Convictions				Total
	None	One	Two	Three or More	
Number Received	162	62	67	558	849
Percentage of Total	19.1	7.3	7.9	65.7	100.0

(a) Previous convictions may not necessarily have involved imprisonment.

Parole and Remission of Sentences

Good conduct remissions of up to one-third of sentence for prisoners sentenced to over three months may be granted by the Governor of the State on the Controller's recommendation. Prisoners may also be paroled on licence for the balance of their sentences.

The Indeterminate Sentences Board is appointed by the Governor of the State to review cases of prisoners serving indeterminate sentences (i.e. those where no fixed sentence is specified and the duration is dependent on the prisoner's conduct, etc.). Such prisoners may be released on a two-year licence and are subject to any conditions the Board may recommend, e.g. the supervision of a probation officer.

The following summary table shows the number of prisoners under the supervision of the Indeterminate Sentences Board:

Prisoners Serving Indeterminate Sentences at Risdon Gaol

Prisoners	1966-67	1967-68	1968-69	1969-70	1970-71
Received During Year	11	15	9	16	12
Discharged During Year.. .. .	12	19	11	7	20
In Custody at 30 June	12	8	6	15	7

Capital Punishment

The death sentence has not been carried out in Tasmania since 1946, but judges have pronounced the sentence from time to time until 1968; in October 1968, the Attorney-General introduced a bill to abolish capital punishment and this was passed by the Parliament in December of that year.

Risdon Gaol

The Risdon Gaol, with provision for 333 prisoners, was opened in November 1960. Male prisoners were then transferred from the old Hobart Gaol and in June 1963, the Female Prison, the first entirely separate gaol for women to be built in the State, was opened on the Risdon site. The following table shows the daily average and highest number of prisoners in each year at Risdon Gaol over a five-year period:

Number of Prisoners, Risdon Gaol (a)

Prisoners	1966-67	1967-68	1968-69	1969-70	1970-71
Maximum Number	340	352	362	405	414
Daily Average	292	323	333	359	386

(a) Includes Hayes Farm Gaol.

The Risdon Gaol incorporates workshops which serve as a basis for vocational and trade training in such subjects as woodworking, tailoring, sheet metal working, bootmaking, laundry and breadmaking. Educational services include instruction during working hours for illiterate and semi-literate prisoners; tuition, during evenings, in general academic subjects to Secondary Schools Certificate standard; correspondence courses in University, School Certificate, Higher School Certificate and various technical and commercial subjects; tuition in English for migrants; and training in art and allied subjects. A classification committee interviews all prisoners on admission and decides on each individual's training programme.

Groups meet regularly for wood carving, art, pottery, toy making, chess and dramatics. Feature and documentary films are screened monthly, and concert parties visit the prison regularly. A comprehensive sports programme is conducted, including athletics, gymnastics, and competitions in cricket, volley ball and basketball.

The State Library of Tasmania helps with the prison library and library officers advise the prisoners on book selection each weekend; 5,000 volumes are immediately available; prisoners may request other books. Over 650 books are borrowed from the library weekly.

Prison industries produce articles for government departments and institutions. The following table shows the receipts for prison industries over a five-year period. A new laundry installed in 1963 contributes to receipts from sales and services but the amounts are not a true indication of value to the government, as laundry is processed at a nominal figure for hospitals and other government institutions.

Gaol Suspense Account (Prison Industries)
(£)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Receipts (a)	89,604	70,094	99,852	82,901	101,895
Paid to Consolidated Revenue	11,136	4,998	1,203	28,328	9,309

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.

Hayes Farm Gaol

The Farm Gaol at Hayes ('Kilderry') is an outstation of the Risdon Prison. It is used to prepare men for a normal way of life through operation of the honour system. Up to 90 prisoners who are regarded as being worthy of trust, regardless of their age, length of sentence or type of offence, are held there.

The following table shows the receipts from sale of farm produce and the amounts paid to Consolidated Revenue over a five-year period:

Gaol Farm Suspense Account
(£)

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Receipts (a)	63,170	60,480	73,687	80,622	84,016
Paid to Consolidated Revenue	7,341	8,033	2,564	13,267	15,825

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.

The 1,400 acre property has been developed into a model farm with a great diversity of farming activities. These include 65 acres for vegetables; a registered stud of Friesian cattle and Herefords; about 2,000 sheep for wool and fat lambs; a registered herd of Berkshire pigs; poultry; cropping of wheat, oats, lucerne and hay; breeding of children's ponies; hot house cultivation; and an experimental shrub and tree nursery, etc. An additional 310 acres of land was purchased near New Norfolk in May 1969. This property, about one mile north of the Hayes prison farm functions as an annexe to the Hayes property. During 1970-71 a sawmill was established on the property. The Royal Derwent Hospital farm of 734 acres, including the dairy herd and poultry section, was transferred to the Prisons Department during 1971. All prison requirements of milk and butter are met and the surplus is supplied to the Royal Derwent Hospital. Building construction activities and machinery maintenance workshops also provide employment, but this range of prison industries is more limited than at Risdon. Similar educational and recreational facilities are provided.

Adult Probation Service

The Service deals with the problems of resettlement and re-employment of discharged prisoners. There is a counselling and guidance service so that ex-prisoners may be placed in occupations suited to their talents.

The Hobart and District Civic Rehabilitation Council, the Prisoners Aid Society, the City Mission, the Society of St Vincent de Paul, chaplains of the various churches, and other voluntary aid organisations, give material and moral assistance to serving and discharged prisoners.

THE TASMANIAN POLICE FORCE

History

The development of an organised Police Force in Tasmania commenced when Governor Collins arrived, bringing with him a body of civilians known as the 'Night Watch' which had been formed at the settlement on Port Phillip Bay. On 5 July 1804, Collins instructed that at least two of the Night Watch were to be on duty at night because of the number of robberies being committed. Collins disbanded the Watch two years later, recognising that it was necessary to have police able to carry out their duty in a proper manner. At Port Dalrymple, now Launceston, which was then separately administered, Lieutenant-Governor Paterson on 19 November 1804, appointed Thomas Massey as Chief Constable, with three subordinate constables.

Because allowances, which consisted only of rations, clothing and spirits, were not sufficient for the proper support of the first policemen, they were forced to find other means of supplementing their incomes. This led to the force being mediocre at best. Free settlers were not inclined to join the force because of the poor remuneration; recruits were mostly convicts on 'ticket of leave'.

In 1828, Governor Arthur, who had commented that 'there was no Branch of the Public Service more deficient than the Police', divided the State into nine districts, each with a police magistrate who was responsible to a chief police magistrate in Hobart. Writing about the 1820s in Hobart Town, J. E. Calder in an 1879 newspaper article said '... drunkenness was 10 times more prevalent than now, and street robbery, burglary and even murder were not rare ...'

Arthur's organisation remained until soon after the State graduated to responsible government in 1856. In 1857, the *Hobart Town and Launceston Police Act* made the two towns responsible for their police forces. Some other municipalities took control of their own police following the passing of the *Rural Municipalities Act* 1858, and, where there was no municipal police force, the Government provided police from a Territorial Force.

The nucleus of the present force was not created until 1898 when the first Commissioner was appointed, all police forces were amalgamated and municipal control terminated.

The Present Force

Organisation: The Police Department is headed by the Commissioner who is responsible to the Minister for Police. There are three administrative districts, i.e. Southern, Northern and North-Western, each under the control of a superintendent. Overall control of the three districts is vested in a Chief superintendent. (This position was created in 1972, and is the highest *uniform* rank in the police force.) The police force has three specialist branches, the Criminal Investigation Branch, the Training Branch and the Traffic Branch, each with a superintendent in charge.

Recruitment and Training: The Police Department operates two recruit training schemes. In 1971 the Department introduced a two-year cadet training scheme from which recruits qualify as first-year constables at the age of nineteen. To qualify for the two-year course applicants, among other qualifications, must be aged between sixteen and seventeen years three months and hold Level II passes in School Certificate Mathematics and English. All other recruits undergo an intensive 14-week training course.

In the past three years there has been a rapid increase in the number of policewomen. Policewomen receive the same training, pay and other allowances as male officers.

Officers must qualify by examination before promotion to each rank up to inspector. The Department has sponsored some officers' university courses and men are also sent to police colleges in Sydney and Melbourne.

Criminal Investigation: The Criminal Investigation Branch comprises approximately 130 police officers of whom about 100 are engaged in the active investigation of crime. The recently formed drug squad is part of this Branch. The Branch also controls the information bureau (see *Fingerprinting* and *Laboratory* below) and communications.

Traffic Duties: The Department enforces the traffic regulations for the Transport Commission. Traffic control occupies a large part of police time.

Search and Rescue: A search and rescue squad, based in Hobart, equipped for bush and sea search and rescue, cliff rescue, and resuscitation is ready to leave at short notice. The squad is supported by walking clubs and other people in various parts of the State.

Other Duties: Inspection of licensed premises, supervision of gaming, conducting special interviews and inquiries for government departments, and the service of notices and summonses are important police functions.

Communications: Radio is used extensively; since 1954 there has been a direct link-up with the mainland States. An intrastate system operates between Hobart, Launceston, Burnie, Queens-town, Oatlands and Deloraine. Mobile radio is installed in all police vehicles and boats. 'Walkie-talkie' units were issued to policemen on the beat in Hobart and Launceston in 1971. A teleprinter allows direct contact with Interpol, an international police agency, and other States.

Fingerprinting: This is an important aid to criminal investigation. Each year some 2,000 sets of prints are received, checked with the Central Fingerprint Bureau in Sydney and classified. Over 100,000 sets are kept on file.

Laboratory: A modern laboratory equipped with a comparison microscope and other investigation facilities is used by Information Bureau experts for ballistic examination, inspection of documents, file marks, etc. and other evidence of criminal activity. Extensive use is made of photography.

Police Academy: In 1971 work started on the Department's new training academy at Rokeby, about ten miles from Hobart. The academy, to cost an estimated \$3,500,000, is scheduled for completion in 1973-74. Planned to house 120 cadets, the project comprises an instruction block, a residential block and four houses to accommodate senior staff. Among facilities which will be provided at the academy are a shooting range, armoury, drill square, library, theatre and cafeteria.

Strength of Force

The following table shows the number of police and expenditure:

Police Force: Number and Cost

Particulars	1966-67	1967-68	1968-69	1969-70	1970-71
Police Officers (a) no.	699	r 696	721	749	796
Persons Per Police Officer (a) no.	r 537	r 545	r 534	r 518	490
Cost (Total Expenditure of Police Department) \$'000	3,109	3,541	3,680	4,055	4,869
Cost Per Head of Mean Population \$	r8.33	r9.38	r9.62	r10.49	12.51

(a) At 30 June.

EMERGENCY SERVICES

Civil Defence

Introduction

In 1962, after discussions with the Commonwealth, the State Government agreed to establish a Tasmanian civil defence organisation as a part of an Australia-wide civil defence service, but it was decided to adapt the service to deal with natural disasters as well as war-time emergencies.

Structure

Responsibility for establishing the service was divided between Commonwealth, State and local governments. Local government authorities are responsible for: (i) appointing local controllers who have the task of raising and training volunteer forces; and (ii) sponsoring local volunteer groups. Participation by local government authorities is voluntary and at 1 July 1972 41 municipalities had joined the scheme in Tasmania. Participating municipalities do not necessarily have to provide financial assistance but are expected to provide facilities for training purposes and storing equipment.

During peace-time, control of the State Civil Defence and Emergency Services is vested in the Chief Secretary as the Minister responsible for Emergency Services. The Director of Civil Defence and Emergency Services is responsible for the administration of the Service and for implementing government civil defence policy. In the case of war or attack by a foreign power, the Civil Defence Service may be given statutory powers. At a time of natural disaster, the organisation may be called into operation by a decision of State Cabinet or a request from a statutory authority responsible for emergency operations. The Commissioner of Police then assumes responsibility for the co-ordination of the emergency operations.

During 1971-72 the Civil Defence assisted the Police and other operational control authorities on a number of occasions.

Administrative Structure

Civil Defence administration in Tasmania is organised on a four-level basis: (i) municipal divisions; (ii) regions; (iii) areas; and (iv) State headquarters. Each municipality constitutes a municipal division of which 36 are currently operational. The 'municipal divisions' are allocated on a geographical basis between nine 'regions' which in turn are attached to one of three 'areas'. At the apex of the structure is the State headquarters located at Hobart.

At present, regional commands are bypassed and a direct link exists between the 'area' and the 'municipal division'.

Each area is administered by a full-time area co-ordinating officer who assists volunteer municipal controllers in raising and training divisions.

Recruitment and Training

By July 1972, 1,228 males and 391 females had volunteered for service in the 41 municipal divisions. On enlistment all volunteers are insured against death or injury while engaged in training or participating in emergency operations.

Training is undertaken at State Headquarters and the municipal level, while instruction courses for controllers, staff officers, instructors and heads of services are conducted at the Australian Civil Defence School at Mt Macedon, Victoria. During 1971-72, 102 members of the State Civil Defence attended courses in Victoria. Annual seminars for local controllers of municipal divisions are also conducted.

Equipment and Finance

Protective clothing and operational equipment for the units of the various services up to the value of \$20,000 per annum are provided by the Commonwealth Directorate of Civil Defence. State appropriation for civil defence expenditure during 1971-72 was \$51,100.

Fire Prevention and Fire Fighting*Fire Brigades Commission of Tasmania*

The Commission, established under the *Fire Brigades Act 1945* (as amended) is composed of two representatives of the Minister (the Chief Secretary), three representatives of insurance companies, one representative of city and municipal councils and one representative appointed by the Rural Fires Board. All urban brigades are under the control of a Chief Officer. The system of financing the fire brigades is shown below:

Fire Brigades: Principal Sources of Revenue, 1970-71
('\$000)

Contributions Received by Fire Brigades Commission	Receipts	Distribution Made by Fire Brigades Commission	Payments
From—		To—	
State Government	268	Fire Brigades Boards	1,192
City and Municipal Councils	268		
Insurance Companies	656		
Total	1,192	Total	1,192

The number of contributing local government authorities in 1970-71 was 32, although the number of fire brigade boards was only 23 (some boards take responsibility for areas lying in more than one municipality, e.g. the Hobart Board with sub-stations in Glenorchy, Clarence, Kingborough and Sorell). The present contribution formula requires 55 per cent from the insurance companies, and 22½ per cent each from the Government and local government authorities; the Commission prepares an annual estimate of expenditure so that the level of contributions may be fixed in advance. The loan debt of all fire brigade boards at 30 June 1971 was \$672,000.

At 30 June 1971, the 23 fire brigade boards maintained 40 stations (including sub-stations) and employed 224 permanent firemen (Hobart 133, Launceston 79, Burnie 6, Devonport 6); other firemen, numbering 419, were paid on a part-time basis. In addition, one Hobart sub-station, Fern Tree, situated in forested mountain country, had a volunteer strength of 40. Including the Fern Tree volunteers, the total firemen (officers and men) in the Brigades numbered 683.

Rural Fires Board

Following the fire disaster of February 1967, the Rural Fires Board was reorganised under the *Rural Fires Act* 1967 and became fully operative in July 1968.

The Act brought the separate urban and rural fire services and the State Civil Defence and Emergency Services together under the Chief Secretary. The Rural Fires Board operates under a chairman appointed by the Governor and consists of 16 members representing: Forestry Commission (two members); Police; Fire Brigades Commission; pulp and paper making industry management; sawmilling industry management; Hydro-Electric Commission; Fire and Accident Underwriters' Association; Tasmanian Farmers' Federation; Tasmanian Farmers', Stockowners' and Orchardists' Association; Australian Workers' Union; Timber Workers' Union; and Rural Fire Brigades.

Under the Act, the municipal councils, through fire permit officers approved by the Board, are made responsible for the control and issue of permits for fire use in restricted periods. Permit officers are not necessarily employees of the councils. Fire use is controlled during only two periods, that is, during *fire danger periods*, when permits are required, and on days of *acute fire danger* when no fires are permitted. These periods are introduced and removed as the seasonal conditions dictate in various parts of the State. The Act requires each municipal council to form a municipal fire committee for the purpose of promoting the formation of rural fire brigades and advising the Board and the council on matters of fire restriction, hazard reduction, the provision of funds for purchase of equipment to be used by rural fire brigades and any other fire control matters. For approved equipment purchases for use by rural fire brigades, the Government may contribute a subsidy equal to the sum provided by the municipal council. Areas with particular fire problems and sparse population may be declared as *special fire areas* and be the subject of separate schemes sponsored entirely from Government finance.

The Board has a paid staff of 15, headed by the State Fire Control Officer and includes five Regional Fire Officers. There were 276 rural fire brigades at June 1971. These brigades are composed entirely of registered volunteers, involving 6,514 people. The Board's budget in 1970-71 was \$444,388 comprising: \$162,750 for administrative and field operational expenditure; \$140,000 for fire fighting vehicles, radio communications and other equipment; \$84,000 for development of *special fire areas*; and \$57,500 for fire fighting equipment, hazard clearing and other work in Hobart special fire area. Half the administrative expenditure of the Board is met by insurance companies insuring rural properties, and half by the Government. Special fire area expenditure is borne by the Government, with remaining expenditure being shared proportionately between the Government and municipalities.

Forestry Commission

The Commission is responsible for the protection of the State Forests (2.7m acres) and of other forested Crown land. Close liaison is maintained with the Rural Fires Board as two members of the 16-man Board are representatives from the Forestry Commission.

The following table gives details, for 10 years, of the areas burnt within fire perimeters, the number of fires fought and the cost of suppression.

Comparisons of Seasonal Fire Damage

Year	Area Burnt (a)	Fires	Suppression Cost	Year	Area Burnt (a)	Fires	Suppression Cost
	acres	no.	\$		acres	no.	\$
1961-62 ..	27,904	137	21,316	1966-67 ..	426,219	264	108,018
1962-63 ..	21,680	126	17,918	1967-68 ..	95,705	230	61,032
1963-64 ..	66,518	252	74,012	1968-69 ..	11,205	87	18,722
1964-65 ..	11,815	146	33,930	1969-70 ..	15,372	118	21,963
1965-66 ..	129,147	317	54,968	1970-71 ..	21,407	114	22,493

(a) Including private property inside the perimeter of fires on which suppressive action was taken.

During 1970-71 18,686 acres of State forest and Crown land were burnt. Of this area 5,847 acres were scrub and wasteland, 7,523 acres were forest which had been logged over and 5,316 acres were areas of commercial timber and regrowth.



Track-laying machine used on Bell Bay rail link

[Mercury]

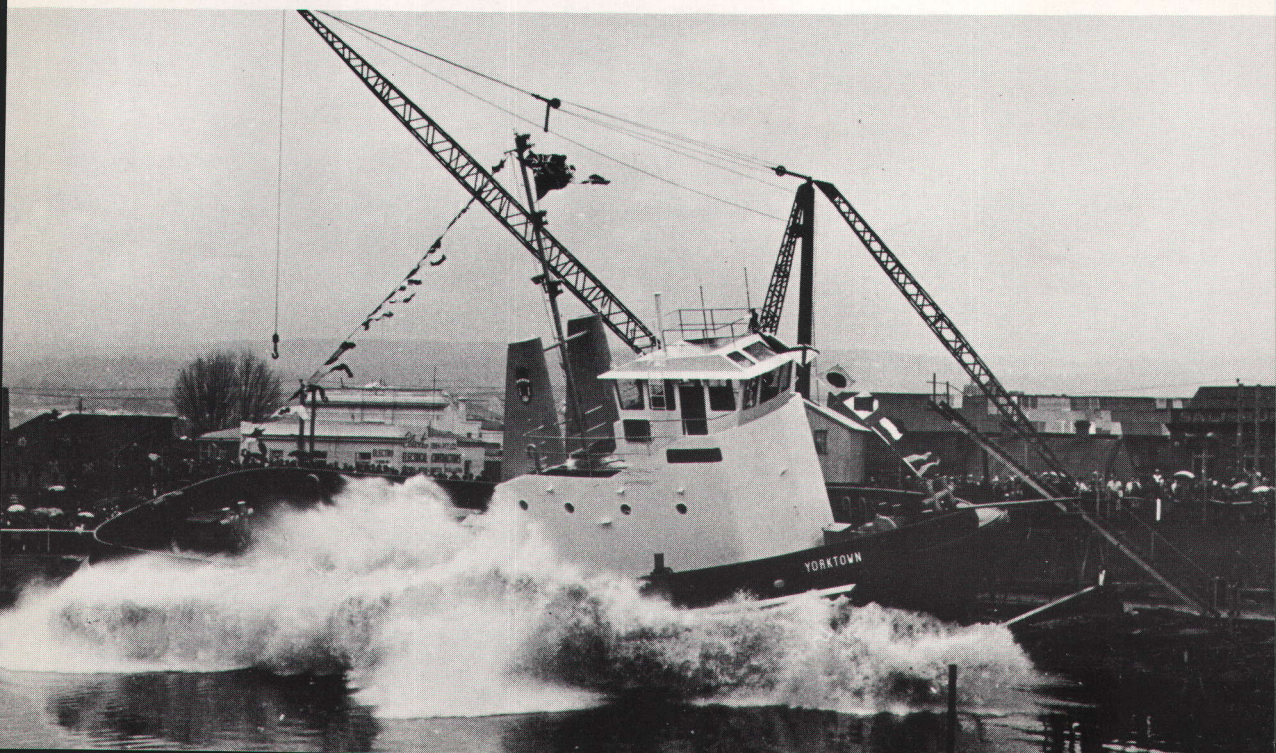


Fisheries Division's new research-patrol vessel 'Challenger'

[Mercury]

Launching 'Yorktown' new Launceston Port Authority tug

[Mercury]



Chapter 17

LABOUR, WAGES AND PRICES

EMPLOYMENT

Historical

Tasmanian records for the first 90 years give no dissection of the population such that the total number of wage and salary earners can be accurately ascertained. The first census to provide the necessary analysis was that of 1891, the categories used on that occasion and in subsequent censuses being broadly comparable. The composition of the labour force is shown in the following table for each census from 1901 to 1961:

Elements of Labour Force: Censuses of 1901-1961

Census Year	Employer	Self-employed	Employee	Helper not Receiving Wage or Salary	'Not at Work' (a)	Total in Labour Force	Total Population
1901—Males	6,213	9,100	36,063	4,098	1,810	57,284	89,624
Females	462	2,434	10,229	2,071	356	15,552	82,851
Persons	6,675	11,534	46,292	6,169	2,166	72,836	172,475
1911—Males	8,477	6,742	40,555	3,916	1,492	61,182	97,591
Females	642	1,249	10,715	411	326	13,343	93,620
Persons	9,119	7,991	51,270	4,327	1,818	74,525	191,211
1921—Males	4,445	13,309	42,763	1,875	3,606	65,998	107,743
Females	347	1,593	11,484	67	510	14,001	106,037
Persons	4,792	14,902	54,247	1,942	4,116	79,999	213,780
1933—Males	7,277	11,887	38,084	1,752	10,226	69,226	115,097
Females	798	1,423	13,082	116	1,442	16,861	112,502
Persons	8,075	13,310	51,166	1,868	11,668	86,087	227,599
1947—Males	6,718	12,522	58,097	997	1,867	80,201	129,244
Females	659	1,198	17,693	86	481	20,117	127,834
Persons	7,377	13,720	75,790	1,083	2,348	100,318	257,078
1954—Males	6,886	12,616	72,481	778	1,215	93,976	157,129
Females	788	1,329	21,590	246	279	24,232	151,623
Persons	7,674	13,945	94,071	1,024	1,494	118,208	308,752
1961—Males	7,108	11,619	78,863	505	3,194	101,289	177,628
Females	1,113	1,572	25,853	194	896	29,628	172,712
Persons	8,221	13,191	104,716	699	4,090	130,917	350,340

(a) Includes those who stated they were usually engaged in work, but were not actively seeking a job at the time of the census by reason of sickness, accident, etc., or because they were on strike, changing jobs, temporarily laid off, etc. It also includes persons able and willing to work, but unable to secure employment, as well as casual and seasonal workers not actively engaged in a job at the time of a census.

Labour Force and Employment

It is essential to distinguish between 'labour force' and 'employees' since *employment* statistics in this Chapter relate mainly to wage and salary earners, who are, however, *only one component of the labour force* which also comprises employers, self-employed persons, unpaid helpers and unemployed persons. The category 'not at work' shown in the preceding table was first established in the 1947 Census and the comparison with earlier years is only approximate. For further details, see subsequent section headed 'Unemployment'. Data from the 1966 and 1971 Censuses (shown in the next section) could not be included in the previous table because of a new method of collecting information.

Labour Force

From the 1966 Census, a new set of questions (based on activity in the week before the Census) was asked to establish who should be included in the labour force. The composition was as follows:

Elements of Labour Force: Census, 1966 and 1971

Sex	Employer	Self-employed	Employee	Unpaid Helper	Un-employed	Total in Labour Force	Total Population
1966—Males	8,245	9,162	87,572	432	1,146	106,557	187,390
Females	1,759	1,644	35,451	940	971	40,765	184,045
Persons	10,004	10,806	123,023	1,372	2,117	147,322	371,435
1971—Males	6,841	8,442	90,627	277	1,786	107,973	196,442
Females	1,727	1,892	39,649	760	1,261	45,289	193,971
Persons	8,568	10,334	130,276	1,037	3,047	153,262	390,413

The new approach to labour force classification was as follows: in pre-1966 censuses people had been invited to classify themselves (e.g. as unemployed, employee, etc.) but in 1966 and 1971, people were invited to describe their *activity* in a specific week and the Statistician, using pre-determined definitions, classified them on the basis of their answers.

Briefly, the new questions asked whether the person: (i) Had a job or business of any kind last week (even if temporarily absent from it); (ii) Did any work at all last week for payment or profit. (Unpaid helpers who worked were to answer *yes*.); (iii) Was temporarily laid off by his employer without pay for the whole of last week; and (iv) Looked for work last week. (Ways of 'looking for work' were specified on the Census form.)

The 1966 and 1971 labour force included all persons answering *yes* to any one of these four questions. The effect of the new definition was to include additional persons in the labour force. This applied particularly to those working part-time (sometimes for only a few hours a week), some of whom in 1961 may not have considered themselves as '... engaged in an industry, business, profession, trade or service'. The main difference in classification between the 1901-1961 table and the 1966-1971 table is the substitution of the category 'unemployed' for the former category 'not at work'.

The total of persons recorded as unemployed in 1966 and 1971 was compiled from persons answering *no* to questions (i), (ii) and (iii) and *yes* to question (iv).

Monthly Series of Employment Statistics

In this Chapter, employment details are shown from June 1966. The series is based on comprehensive data (referred to as 'benchmarks') derived from the Census of June 1966. Figures for the period subsequent to the Census of 1966 are estimated from three main sources, namely: (i) current pay-roll tax returns; (ii) current returns from government bodies; and (iii) some other direct current records of employment (e.g. for hospitals), supplemented by estimates of the change in the number of wage and salary earners not covered by the foregoing collections.

The benchmark figures are derived from particulars recorded for individuals on population census schedules, whereas the estimated monthly figures are derived from reports supplied by employers relating to enterprises or establishments. These two sources differ, in some cases, in scope and in reporting of industry; however, the industry dissection of the benchmark total has been adjusted, as far as possible, to an enterprise or establishment reporting basis. The industry classification used throughout the series is that of the Census of June 1966.

Pay-roll tax returns are lodged at present by all employers paying more than \$400 a week in wages (other than certain Commonwealth Government bodies, religious and benevolent institutions, public hospitals and organisations specifically exempted). The \$400 exemption limit dates from 1 September 1957 (the previous limit had been \$240). The passing of control of pay-roll tax in 1971 from the Commonwealth to the States did not affect the production of the wage and salary earners employment series.

It should be noted that employees in rural industry and in private domestic service are not included in the estimates because of the inadequacy of current data. The terms 'Employment', 'Number Employed', 'Employees' and 'Wage Earners' used throughout are synonymous with, and relate to, 'Wage and Salary Earners' on pay-rolls or in employment in the latter part of each month, as distinct from numbers of employees actually working on a specific date. They include some persons working part-time.

Figures for current months are subject to revision. As they become available, particulars of employment obtained from other Bureau collections are used to check and, where necessary, to revise estimates in relevant sections.

The table below gives estimated totals for employees in Tasmania at June and December of each year:

Wage and Salary Earners in Civilian Employment, June and December (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)
(*000)

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1967	83.2	35.5	118.7	84.3	36.2	120.5
1968	84.7	37.1	121.8	86.4	37.8	124.2
1969	86.5	38.1	124.6	88.0	39.4	127.4
1970	88.5	39.3	127.8	88.9	40.8	129.7
1971	89.1	40.5	129.6	(a) 89.0	(a) 41.0	(a) 130.0
1972 (a)	89.4	40.2	129.6	89.8	41.4	131.2

(a) From July 1971 trainee teachers excluded; some previously classified as employees.

The detailed study of employment trends requires examination of monthly figures, so the next table has been compiled to show totals of employees for each month:

Wage and Salary Earners in Civilian Employment, Monthly Estimates (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)
(000)

Month	Males			Females			Persons		
	1970	1971 (a)	1972	1970	1971 (a)	1972	1970	1971 (a)	1972
January	88.3	89.2	89.2	38.6	39.9	39.8	126.9	129.1	129.0
February	88.3	89.5	89.4	38.8	40.5	39.9	127.1	130.0	129.3
March	88.9	89.7	89.8	39.1	40.8	40.1	128.0	130.5	129.9
April	89.2	90.1	89.9	39.6	40.6	40.2	128.8	130.7	130.0
May	88.9	89.7	89.8	39.6	40.7	40.5	128.5	130.4	130.3
June	88.5	89.1	89.4	39.3	40.5	40.2	127.8	129.6	129.6
July	88.2	88.7	88.9	39.2	40.3	40.3	127.4	129.0	129.2
August	88.2	88.6	88.9	39.1	40.2	40.5	127.3	128.8	129.4
September	88.0	87.9	88.6	39.0	40.2	40.3	127.0	128.1	128.9
October	87.9	87.9	88.1	39.2	40.3	40.2	127.1	128.2	128.3
November	88.0	88.5	89.1	39.5	40.6	40.5	127.5	129.0	129.6
December	88.9	89.0	89.8	40.8	41.0	41.4	129.7	130.0	131.2

(a) From July 1971 trainee teachers excluded; some previously classified as employees.

Civilian Employees of Government Bodies

In Tasmania, as in other Australian States, a relatively high proportion of wage and salary earners is employed by government bodies operating at four levels: Commonwealth, State, local and semi-government (with the complication that semi-government authorities may have been created by either the Commonwealth or the State). For the purpose of these statistics, government employees include persons working on government services such as railways, bus services, banks, post offices, power and light, air transport, education (including universities), radio, television, police, public works, government factories, departmental hospitals and institutions, etc., as well as those engaged in administrative services.

The following table shows the number of government employees in Tasmania according to the level of government:

Civilian Employees of Government Bodies at 30 June (000)

Year and Sex	Level of Government			Total
	Commonwealth (a)	State (a)	Local	
1970—Males	5.2	18.7	2.4	26.3
Females	1.7	6.7	0.4	8.7
Persons	6.8	25.4	2.8	35.0
1971—Males	5.2	18.4	2.4	26.1
Females	1.7	7.0	0.3	9.0
Persons	6.9	25.4	2.8	35.1
1972—Males	5.3	(b) 18.7	3.0	26.9
Females	1.7	(b) 6.3	0.4	8.4
Persons	7.0	(b) 25.0	3.3	35.3

(a) Includes semi-government authorities.

(b) From July 1971, trainee teachers excluded; some previously classified as employees.

The next table shows employees according to private and government sectors:

Total Civilian Employees of Private Employers and Government Bodies at 30 June
(^{'000})

Year	Males Employed By		Females Employed By		Persons Employed By	
	Private Employers	Govt Bodies	Private Employers	Govt Bodies	Private Employers	Govt Bodies
1968	58.8	25.9	28.6	8.5	87.4	34.4
1969	60.5	26.0	29.7	8.4	90.2	34.4
1970	62.2	26.3	30.6	8.7	92.8	35.0
1971	63.0	26.1	31.5	9.0	94.5	35.1
1972 (a)	62.5	26.9	31.8	8.4	94.3	35.3

(a) From 1 July 1971, trainee teachers excluded; some previously classified as employees.

Industrial Classification of Employees

In the following table, wage and salary earners in civilian employment are classified according to industry:

Wage and Salary Earners in Civilian Employment: Industry Groups and Sub-Groups, June 1972
(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)
(^{'000})

Industry Group and Sub-group	Males	Females	Persons
Forestry, Fishing and Hunting	1.1	0.1	1.2
Mining and Quarrying	4.9	0.2	5.1
Manufacturing	27.3	6.7	34.0
Electricity, Gas, Water and Sanitary Services	3.9	0.3	4.2
Building and Construction	11.6	0.3	11.9
Transport and Storage—			
Road Transport and Storage	3.0	0.3	3.3
Shipping and Stevedoring	1.9	0.1	2.0
Rail and Air Transport	1.8	0.1	1.9
Total	6.8	0.5	7.4
Communication	2.9	0.9	3.8
Finance and Property—			
Banking	1.5	0.9	2.4
Other	1.7	1.3	3.0
Total	3.2	2.2	5.4
Commerce—			
Retail Trade	6.2	7.1	13.3
Wholesale and Other Commerce	5.6	1.5	7.1
Total	11.8	8.5	20.3
Public Authority Activities (n.e.i.)	4.5	1.9	6.4
Other Industries—			
Health, Hospitals, etc.	1.8	6.7	8.5
Education	3.1	4.1	7.3
Amusement, Hotels, Personal Service, etc.	3.6	5.6	9.2
Other (a)	3.0	2.1	5.1
Total	11.5	18.5	30.0
Grand Total	89.4	40.2	129.6

(a) Comprises: Law, Order and Public Safety, Religion and Social Welfare; Other Community and Business Services.

The analysis of wage and salary earners by industry groups clearly indicates 'manufacturing' as the predominant activity. As employees in agriculture are excluded from the series, it is not possible to compare employment in primary, secondary and tertiary industries on the basis of the data appearing in the table. ('Employment on Rural Holdings' is described in Chapter 7 but the seasonal character of this work makes it difficult to estimate the level of rural employment in any given month.) Attention is drawn to the relatively minor level of employment in 'Public Authority Activities (n.e.i.)'; the civilian employees of government bodies shown in a previous table have been classified according to their appropriate industry group (e.g. transport, communication, health, education, etc.) and only those not included in a specified group appear in this item.

Industrial Classification of the Labour Force and of Employees

The Census of 30 June 1971 provides an analysis of the total labour force (including those engaged in rural industry); the percentage in each broad category was as follows: *primary production* (fishing, hunting, rural industries, forestry), 9.17; *mining and quarrying*, 3.05; *manufacturing*, 20.99; *electricity, gas, water and sanitary services*, 2.45; *building and construction*, 8.60; *transport and storage*, 5.06; *communication*, 2.15; *finance and property*, 5.21; *commerce* (wholesale and retail), 18.05; *public authority (n.e.i.) and defence services*, 4.80; *community and business services (including professional)* (e.g. schools, hospitals, etc.), 11.82; *amusement, hotels and other accommodation, cafes, personal service, etc.*, 5.07; *industry not stated*, 3.58; *total*, 100.00.

If the primary group is combined with *mining and quarrying*, only 12 per cent of the labour force was engaged in the extraction of raw materials; a further 21 per cent was engaged in manufacturing. In other words only 33 per cent of the labour force was engaged in primary and manufacturing industries as defined for statistical purposes.

The next table specifies the main industrial groups and shows the industrial classification of *civilian employees* at annual intervals:

Wage and Salary Earners in Civilian Employment: Main Industry Groups
(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)
(^{'000})

At 30 June	Mining and Quarrying	Manufacturing (a)	Building and Construction	Transport, Storage and Communication	Retail Trade	Wholesale Trade, etc; Finance, Property	Public Authority (n.e.i.); Community Services, etc. (b)	Amusement, Hotels, Personal Service, etc.
MALES								
1968	3.9	27.4	11.6	9.9	6.0	8.3	10.5	2.6
1969	4.2	27.8	11.8	9.9	6.0	8.4	10.9	2.7
1970	4.4	28.3	12.2	9.8	6.0	8.4	11.3	3.1
1971	4.8	28.2	11.4	9.8	6.0	8.8	11.9	3.4
1972 (c) ..	4.9	27.3	11.6	9.7	6.2	8.8	12.4	3.6
FEMALES								
1968	0.2	7.0	0.3	1.5	6.7	3.3	13.7	4.1
1969	0.2	7.1	0.3	1.5	6.8	3.4	14.0	4.5
1970	0.2	7.3	0.3	1.5	6.7	3.4	14.5	5.0
1971	0.2	6.9	0.3	1.4	6.9	3.7	15.1	5.4
1972 (c) ..	0.2	6.7	0.3	1.4	7.1	3.7	14.9	5.6

Wage and Salary Earners in Civilian Employment: Main Industry Groups
(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)—continued
('000)

At 30 June	Mining and Quarrying	Manufac- turing (a)	Building and Construct- ion	Trans- port, Storage and Communi- cation	Retail Trade	Wholesale Trade, etc.; Finance, Property	Public Authority (n.e.i.); Communi- ty Services, etc. (b)	Amuse- ment, Hotels, Personal Service, etc.
PERSONS								
1968	4.1	34.4	11.9	11.4	12.7	11.6	24.2	6.7
1969	4.4	34.9	12.1	11.4	12.8	11.8	24.9	7.2
1970	4.6	35.6	12.5	11.2	12.7	12.0	25.9	8.0
1971	5.0	35.2	11.7	11.2	13.0	12.4	26.9	8.8
1972 (c) ..	5.1	34.0	11.9	11.2	13.3	12.5	27.2	9.2

(a) Includes employees engaged in selling and distribution, etc. as well as those occupied directly in manufacturing activities.

(b) Includes Law and Order, Religion and Social Welfare, Health Services, Education and Other Community and Business Services.

(c) From 1 July 1971 trainee teachers excluded; some previously classified as employees.

UNEMPLOYMENT

Historical

General

The total of persons 'unemployed' has been recorded by the Bureau of Census and Statistics at the dates of successive population censuses. The measurement of unemployment is complicated by definitional problems since persons normally in the labour force, but not having a job at the time of a census, may be in this position for reasons other than those associated with scarcity of employment. The classifications used in the 1921 and 1933 population censuses are shown in the *Year Book* 1972. At the 1933 census, the unemployed were recorded as constituting 13.6 per cent of the labour force.

'Not at Work'

In the next table, a summary is made of data from the Censuses of 1947, 1954 and 1961, the principal comparison being the respective levels of the labour force and of those classified as 'Not at Work'.

'Not at Work' includes those who stated that they were usually engaged in work but were not actively seeking a job at the time of the census by reason of sickness, accident, etc. or because they were on strike, changing jobs or temporarily laid off, etc. It includes also persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actually in a job at the time of the census. The numbers shown as 'Not at Work', therefore, do not represent the number of unemployed available for work but unable to obtain it.

The term 'Not at Work' does not apply to those who had a job but happened to be absent from it at census date due to sickness or leave.

Labour Force and Persons 'Not at Work'
Censuses of 30 June 1947, 1954 and 1961

Year and Sex	Labour Force (a)	Persons 'Not at Work'	
		Number	Proportion of Labour Force (Per Cent)
1947—Males	80,201	1,867	2.3
Females	20,117	481	2.4
Persons	100,318	2,348	2.3
1954—Males	93,976	1,215	1.3
Females	24,232	279	1.2
Persons	118,208	1,494	1.3
1961—Males	101,289	3,194	3.2
Females	29,628	896	3.0
Persons	130,917	4,090	3.1

(a) Comprises employers, self-employed, employees, helpers and those 'Not at Work'.

The interpretation of 'Not at Work' is made clear by an analysis of the 1961 figures: temporarily laid off, 457 persons; illness, 554; accident, 116; industrial dispute, 5; other causes, 366; *unable to secure employment*, 2,592; total not at work, 4,090 (as shown in table).

'Unemployed'

In the 1966 Census, the following new question was asked: Did the person look for work last week? Answer *yes* or *no*. (Note: 'Looking for work' means: (i) being registered with the Commonwealth Employment Service; or (ii) approaching prospective employers; or (iii) placing or answering advertisements; or (iv) writing letters of application; or (v) awaiting the result of recent applications.) In the 1971 Census this question was asked again with one refinement: was the person seeking a job for the first time or had the person had other jobs before?

After the exclusion of persons who were already employed, but who were seeking alternative employment, the following data were obtained from this approach:

Labour Force and Unemployed Persons, 1966 and 1971 Censuses

Year and Sex	Labour Force	Unemployed	
		Number	Proportion of Labour Force (Per Cent)
1966—Males	106,557	1,146	1.1
Females	40,765	971	2.4
Persons	147,322	2,117	1.4
1971—Males	107,973	1,786	1.7
Females	45,289	1,261	2.8
Persons	153,262	(a) 3,047	2.0

(a) Includes 226 males and 277 females 'looking for first job'.

It should be noted that 'Not at Work' in the 1947-1961 table is different in concept from the 'Unemployed' category in the 1966-1971 table.

Registrations With Commonwealth Employment Service

The Commonwealth Employment Service (C.E.S.) was established by Federal legislation under Section 47 of the *Re-establishment and Employment Act 1945*, and under the *Social Services Legislation Declaratory Act 1947*. The principal function of this service is to provide facilities in relation to employment for the benefit of persons seeking to change or obtain employment, or seeking to engage labour, and to provide facilities to assist in bringing about a high and stable level of employment throughout the Commonwealth.

The C.E.S. functions within the Employment Division of the Department of Labour and National Service on a decentralised basis. The central office is in Melbourne; there is a regional office in Hobart with district employment offices in Hobart, Launceston, Glenorchy, Devonport and Burnie, and agencies at Smithton and Huonville.

All applicants for unemployment benefits provided under the *Commonwealth Social Services Act 1947-1969* must register at a district employment office or agency of the C.E.S. which is responsible for certifying whether or not suitable employment is available. Claims for unemployment benefits are paid by the Department of Social Services; country residents remote from an employment office or agency may claim by mail.

The establishment of the C.E.S. created two new methods of measuring fluctuations in unemployment:

- (i) the number of persons registered for employment with the C.E.S. at the end of each month; and
- (ii) the number of persons receiving unemployment benefit from the Department of Social Services at the end of each month.

'Registered for Employment'

In the following table the persons shown are those who claimed, when registering with the C.E.S., *that they were not employed* and who were recorded on the last Friday in the month as unplaced. The count includes those referred to employers and those who may have obtained employment without notifying the C.E.S.; persons receiving unemployment benefit are included.

Persons Registered for Employment With Commonwealth Employment Service At June and December of Each Year (a)

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1962	2,476	1,133	3,609	2,956	2,356	5,312
1963	2,112	1,315	3,427	2,713	2,210	4,923
1964	1,812	1,156	2,968	1,860	1,598	3,458
1965	1,260	975	2,235	1,426	1,350	2,776
1966	849	846	1,695	1,447	1,260	2,707
1967	1,157	959	2,116	1,716	1,348	3,064
1968	1,145	943	2,088	1,786	1,314	3,100
1969	1,305	815	2,120	1,863	1,612	3,475
1970	1,160	728	1,888	1,791	1,376	3,167
1971	1,726	956	2,682	2,786	1,746	4,532
1972	2,113	1,385	3,498	3,349	2,304	5,653

(a) Recorded as unplaced on the Friday nearest the last day of the month.

In interpreting the level of registration, account should be taken of the fact that registration is a *voluntary act*. Thus, while an increase in registrations may normally be taken to indicate an increase in unemployment, theoretically at least, it could merely indicate wider use of the facilities offered by the C.E.S.

The table that follows has been compiled to show the number registered for employment at the end of each month. The monthly figures are subject to pronounced seasonal influences, the most obvious being the effect of school-leavers on registrations in December and January.

**Persons Registered for Employment With Commonwealth Employment Service
At End of Each Month (a)**

Month	1970			1971			1972		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
January	2,047	1,518	3,565	1,630	1,261	2,891	2,893	1,757	4,650
February	1,626	1,475	3,101	1,318	1,151	2,469	2,211	1,433	3,644
March	843	1,031	1,874	1,013	949	1,962	1,619	1,313	2,932
April	839	729	1,568	1,195	983	2,178	1,689	1,361	3,050
May	919	678	1,597	1,366	1,028	2,394	1,901	1,367	3,268
June	1,160	728	1,888	1,726	956	2,682	2,113	1,385	3,498
July	1,194	702	1,896	1,750	937	2,687	2,368	1,336	3,704
August	1,142	662	1,804	1,825	831	2,656	2,468	1,226	3,694
September .. .	1,209	761	1,970	2,038	838	2,876	2,319	1,171	3,490
October	1,101	753	1,854	1,905	788	2,693	2,232	1,098	3,330
November .. .	996	781	1,777	1,709	868	2,577	3,139	2,222	5,361
December .. .	1,791	1,376	3,167	2,786	1,746	4,532	3,349	2,304	5,653

(a) At Friday nearest last day of month.

Persons Receiving Unemployment Benefit

It is possible for a person to register as unemployed but make no claim for unemployment benefit. On the other hand, a person claiming unemployment benefit is required to register for employment. The next table gives details of persons receiving unemployment benefit each month:

Monthly Number of Persons Receiving Unemployment Benefit (a)

Month	1965	1966	1967	1968	1969	1970	1971	1972
January ..	876	404	452	536	648	634	518	1,125
February ..	828	312	388	474	543	568	502	1,144
March ..	542	217	334	361	332	404	347	1,113
April ..	538	219	315	396	410	349	405	1,191
May ..	728	311	380	456	499	348	574	1,278
June ..	926	433	526	635	600	437	782	1,697
July ..	937	512	597	642	714	544	957	1,922
August ..	813	494	620	667	681	561	1,062	1,854
September ..	763	470	533	615	628	540	1,165	1,813
October ..	557	453	419	565	481	473	1,215	1,698
November ..	484	404	432	575	544	410	1,148	1,879
December ..	465	434	536	658	621	517	1,399	2,214

(a) Number at the last Saturday of month. Source: Department of Social Services.

The number of males and females in receipt of unemployment benefit is shown for June of each year:

Persons Receiving Unemployment Benefit at June (a)

Particulars	1965	1966	1967	1968	1969	1970	1971	1972
Males ..	517	224	325	334	381	290	531	1,087
Females ..	409	209	201	301	219	147	251	610
Persons ..	926	433	526	635	600	437	782	1,697

(a) Number at the last Saturday of June in each year. Source: Department of Social Services.

Comparison of Unemployment Data

The following table shows unemployment recorded at the 1961, 1966 and 1971 Censuses and also other measures of unemployment covering approximately the same points in time. In 1966 and 1971 more persons were recorded as unemployed in the census than the number registered with Labour and National Service; however, in 1961 the position was reversed.

Unemployed Persons, Persons Registered for Employment and Persons Receiving Unemployment Benefit at 30 June

Particulars	1961	1966			1971		
	Persons	Males	Females	Persons	Males	Females	Persons
CENSUS OF 30 JUNE							
Unable to Secure Employment (a)	2,592	1,146	971	2,117	1,786	1,261	3,047
Temporarily Laid Off	457	} n.a.	} n.a.	} n.a.	} n.a.	} n.a.	} n.a.
Illness	554						
Accident	116						
Industrial Dispute	5						
Other	366						
Total 'Not at Work' ..	4,090	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
DEPARTMENT OF LABOUR AND NATIONAL SERVICE							
Registered for Employment (b)	3,213	849	846	1,695	1,726	956	2,682
DEPARTMENT OF SOCIAL SERVICES							
Receiving Unemployment Benefit (c)	1,336	224	209	433	531	251	782

(a) Figures for 1966 and 1971 correspond with 'unemployed'.

(b) At Friday nearest last day of June.

(c) At last Saturday of June.

INDUSTRIAL LEGISLATION AND CONDITIONS

Apprenticeship

Apprenticeship Commission

The Apprenticeship Commission was set up under the *Apprentices Act* 1942 to: (i) encourage, regulate and control training in proclaimed trades; (ii) assist youths towards successful trade courses; and (iii) provide properly trained craftsmen for industry. The Commission, which meets each month, consists of three representatives of trade unions, three of employers' organisations, a nominee of the Minister for Education and the President, all members being appointed for a three-year term. To keep the Commission up-to-date with the latest developments, Trade Advisory Committees have been formed for particular industries, with both employers and employees represented.

Apprentices are trained at work and at technical classes, and supervisors report on the effectiveness of the training; supervisors also give on-the-spot advice to employers and apprentices where their mutual obligations are concerned and refer matters, that cannot be settled in this way, to the Commission for decision.

Apprenticeships

An apprenticeship may not be commenced without the consent of the Commission which also determines the suitability of employers for training apprentices and the educational qualifications required for entry to a particular trade.

The apprentice serves a probationary period before a contract (indentures) is made with the employer and registered with the Commission. The Commission determines disputes about the contracting parties' rights, duties and liabilities and no apprenticeship may be terminated, suspended or assigned other than by its authority; when an apprenticeship has been completed, the employer and the Commission certify to this effect. Where apprentices are required to undertake technical training, either at technical classes or by correspondence, instruction is mandatory. Apprentices attend technical classes for eight hours per week during working hours without loss of pay. (Country apprentices in remote areas attend three fortnightly training periods each year.) The progress apprentices make is reported to the Commission and unsatisfactory reports are investigated.

Apprentices are encouraged in the following ways: (i) by payment of *efficiency allowances* for annual examinations passed successfully in the allotted time; (ii) by *certificates of efficiency* for apprentices successfully completing the mandatory trade course of technical instruction; (iii) by reducing the apprenticeship term by one year in some cases, where the qualifying trade course is completed in the allotted time; and (iv) by the award of bursaries.

Four bursaries (two \$400, two \$200) are awarded each year to outstanding apprentices, and a fifth bursary (\$600) is awarded to 'The Apprentice of the Year'. These bursaries are given to assist the most promising apprentices to secure wider trade experience with another employer as part of the apprenticeship training, either in Tasmania or another State. Arrangements are made by the Commission to suit the bursary holders' wishes.

Numbers of Apprentices

The following table shows the number of apprentices in Tasmania and also details of new apprenticeships registered and apprenticeships completed:

Number of Apprentices; Apprenticeships Registered and Completed

Particulars	1967-68	1968-69	1969-70	1970-71	1971-72
Number at 30 June (a)—					
Indentured Apprentices	3,325	3,470	3,585	3,592	3,583
Apprentices on Probation	452	401	295	320	235
Total	3,777	3,871	3,880	3,912	3,818
During Year—					
New Apprenticeships Registered ..	927	1,025	1,034	990	998
Apprenticeships Completed	704	705	713	763	778

(a) Distributed in proclaimed trades; approximately 130 had been proclaimed at 30 June 1972.

Industrial Accidents

Industrial accident statistics in Tasmania are compiled from returns of workers' compensation claims submitted by insurance companies, self-insurers and State Government Departments. The statistics first published by the Bureau for 1969-70 replaced those formerly published by the Department of Labour and Industry. Because of the number of minor definitional, conceptual and classification changes adopted for the new series, the statistics shown in the following tables are not strictly comparable with those published for earlier years by the Department of Labour and Industry.

The collection is limited to those employees covered by the *Tasmanian Workers' Compensation Act* and therefore excludes self-employed persons, Commonwealth Government employees and the police. Exclusion of self-employed persons is likely to reduce coverage

in industries where self-employment is prevalent (e.g. retail trade, rural industries). Because of the exclusion of Commonwealth employees, some industries are not covered at all, while coverage is considerably reduced in other industries, e.g. communications.

In compiling the statistics the following definitions have been adopted:

Industrial Accident: A compensated work injury causing death or absence of the injured person from work for one day or more. Disease cases and accidents occurring during journeys or recess periods are included. The number of accidents is based on claims finalised during each year ended 30 June. The accidents to which the claims refer may have occurred in the year the claim was finalised or during any earlier year.

Time Lost: The actual time lost from work of persons reported to be temporarily incapacitated or permanently partially-incapacitated as a result of a compensated work injury.

Cost of Claims: Includes compensation of wages lost, hospital and medical expenses and lump sum settlements of cases finalised during the year ended 30 June.

Industry Groups: Classified in accordance with the 1966 Census Classification of Industries and Occupations.

The table that follows shows the number of industrial accidents which occurred during 1970-71 and the time lost through those accidents which caused temporary and permanent partial-disability.

Fatal and Non-Fatal Industrial Accidents: Industry Group and Time Lost, 1970-71

Industry Group	Accidents		Time Lost—Temporary Disability Only (a)	
	Fatal	Non-fatal	Total	Average per Accident
	no.	no.	weeks	weeks
Primary, Mining, etc.—				
Primary Production	1	666	2,088	3.1
Mining and Quarrying	5	402	632	1.6
Total	6	1,068	2,720	2.5
Manufacturing—				
Cement, Bricks, etc. .. .. .	..	82	243	3.0
Engineering, etc.	1	931	1,736	1.9
Ships, Vehicles, etc. .. .. .	..	147	308	2.1
Food, Drink, etc. .. .. .	..	778	1,217	1.6
Sawmilling, etc. .. .. .	..	556	1,174	2.1
Other Manufacturing .. .. .	..	830	1,993	2.4
Total	1	3,324	6,671	2.0
Other Industries—				
Electricity, Gas, Water, etc. .. .. .	..	356	623	1.7
Building and Construction .. .. .	..	1,517	2,740	1.8
Transport and Communication	1	384	873	2.3
Finance and Property .. .. .	..	10	9	0.9
Commerce	3	604	1,202	2.0
Public Authority (n.e.i.), etc. .. .. .	..	18	24	1.3
Community and Business Services	1	293	513	1.7
Amusement, Hotels, etc. .. .. .	..	194	521	2.7
Other .. .. .	..	16	73	4.6
Total	5	3,392	6,578	1.9
Grand Total	12	7,784	15,969	2.1

(a) Includes permanent partial-disability cases.

The cost of industrial accidents, as applicable to each industrial group, is shown in the next table:

Industrial Accidents: Industry Group and Cost of Claims, 1970-71
(£)

Industry Group	Cost of Claims			
	Fatal Accidents	Non-fatal Accidents	Total Accidents	Average per Non-fatal Accident
Primary, Mining, etc.—				
Primary Production	2,620	153,989	156,609	231
Mining and Quarrying	39,324	91,384	130,708	227
Total	41,944	245,373	287,317	230
Manufacturing—				
Cement, Bricks, etc. .. .. .	..	14,944	14,944	182
Engineering, etc.	13,205	104,779	117,984	113
Ships, Vehicles, etc. .. .. .	..	16,004	16,004	109
Food, Drink, etc. .. .. .	..	90,575	90,575	116
Sawmilling, etc. .. .. .	..	108,363	108,363	195
Other .. .. .	..	199,246	199,246	240
Total	13,205	533,911	547,116	161
Other Industries—				
Electricity, Gas, Water, etc. .. .. .	..	55,336	55,336	155
Building and Construction .. .. .	..	182,327	182,327	120
Transport and Communication	12,142	59,527	71,669	155
Finance and Property .. .. .	..	572	572	57
Commerce	25,268	76,864	102,132	127
Public Authority (n.e.i.), etc. .. .. .	..	1,447	1,447	80
Community and Business Services	11,362	28,063	39,425	96
Amusement, Hotels, etc. .. .. .	..	30,595	30,595	158
Other .. .. .	..	5,951	5,951	372
Total	48,772	440,682	489,454	130
Grand Total	103,921	1,219,966	1,323,887	157

Industrial Safety and Accident Prevention

Responsibility: The Department of Labour and Industry is concerned with industrial safety and accident prevention, and discharges this function with the knowledge that there are approximately 8,000 accidents involving lost time each year among the population covered by the *Workers' Compensation Act*.

Cause of Industrial Accidents: Two major factors are held to underly most industrial accidents: (i) unsafe working conditions; and (ii) unsafe actions. In some accidents both factors may be operative.

Prevention: Prevention obviously has a two-fold aspect: (i) inspection programmes aimed at pin-pointing unsafe working conditions; and (ii) education and training designed to eliminate unsafe actions.

Training: The problem of training is basically one of educating supervisors and foremen since an attitude of 'safety consciousness' has to start with management. Formal training in industrial safety and accident prevention is available at Hobart and Launceston Technical

Colleges in two-year courses. Informal training is arranged by the Department of Labour and Industry, the two-day courses available being based on the concept of 'training within industry'. Single lectures on industrial and farm safety are also available and the Department makes arrangements to provide lecturers on request.

Safety Officers: It is expected that large undertakings will have their own specialists concerned with safety matters. However, government safety officers are available to industries which may use their services for a short period. Their function is purely advisory and they assist organisations which wish to stress safety or to reduce their accident rates.

Research Facilities: The Department carries out a safety research programme. A comprehensive classification of safety data and information is maintained from local, interstate and overseas sources.

Workers' Compensation

Legislation: Workers' compensation legislation in Tasmania was first introduced in 1910 but it was not until 1927 that the principle of compulsory insurance was embodied in the *Workers' Compensation Act 1927*, as amended.

Purpose and Limitations: The principle of the Act is provision for compensation on the death or disablement of a worker, if occasioned by personal injury caused in the course of employment. In 1966 the Act was amended to extend compensation cover for injuries sustained by a worker travelling in either direction between his residence and place of employment. The Act provides that this cover to and from work applies only for reasonably direct journeys, except for breaks or deviations connected with the worker's employment. Amendments in 1970 extended coverage to workers who are temporarily absent from work during meal breaks. Self-inflicted injuries are excluded and certain limitations are applied where serious or wilful misconduct is involved. Monetary benefits have fixed limits. All reasonable costs of medical, hospital, nursing and ambulance services, and in the event of death, the reasonable costs of burial or cremation are paid up to a maximum of \$4,000. In addition weekly payments are made during incapacity and there is a lump sum entitlement for scheduled injuries.

Non-contributory Basis: The Act is non-contributory, i.e. the worker does not pay into any fund for the provision of benefits. The employer is obliged to insure with an approved insurance company against the liability to compensation, except in certain cases where he is allowed to carry his own risk.

In any case where an employer has no paid-up insurance policy, where the employer cannot be found or where the employer or his insurance company has become insolvent, the worker may claim against a 'nominal insurer', as if he were the employer.

Amounts paid by the 'nominal insurer' are provided by all insurance companies carrying on workers' compensation business. Each company is required to contribute to these types of claim in proportion to the premium income derived from policies effected during the preceding year.

Compensation on Death: Where death results from an injury, the compensation payable to dependants wholly dependent on the worker's earnings is 284 times the current Hobart base rate, plus seven times the current Hobart base rate for each worker's child under sixteen years at the date of injury. Partial dependants are entitled to proportionate amounts.

Base Rate means the minimum weekly wage payable to the lowest paid adult male employed at Hobart under the Federal Metal Trades Award (in June 1972 the minimum was \$51.70 per week).

Weekly Payments During Incapacity: When the worker is totally incapacitated he is entitled to receive payments on the following basis: (i) worker without dependants, \$36.20 per week; (ii) in respect of a dependent wife, \$8.80 per week; and (iii) in respect of each dependant under 16 years (or each full-time student under 21), \$4.70 per week. The basic rate used to calculate these amounts was \$51.70 at 1 June 1972.

When a worker is partially incapacitated, he receives the rates appropriate to total incapacity reduced by application of the following factor:

$$\frac{\text{Loss of Weekly Earnings}}{\text{Average Weekly Earnings}}$$

('Average weekly earnings', in this context, refers to his earnings before the date when the injury was sustained.)

Maximum Limit of Weekly Payments: The only limit placed on weekly payments is that they must not exceed the employee's average weekly earnings prior to sustaining the injury.

In cases of partial or total incapacity of any worker, the total liability of an employer in making weekly compensation payments is limited to 284 times the current Hobart base rate.

Lump Sum Payments: In addition to weekly incapacity payments, lump sum payments are made in respect of the loss of members of the body or of bodily powers of function. In the Act, specific injuries are listed and the single amount payable is related to the current Hobart base rate (specified as B in the following examples): (i) loss of both feet, $B \times 284$; (ii) loss of leg, $B \times 138$; (iii) loss of thumb, $B \times 51$; and (iv) loss of great toe, $B \times 35$, etc. Where more than one of these injuries are suffered in the same accident, a maximum payment equal to $B \times 532$ may be paid.

Factory Legislation and Inspection

Legislation: Working conditions in factories in Tasmania are covered under the *Factories, Shops and Offices Act* 1965, as amended, which makes provision with respect to the health, welfare, safety, and working conditions of persons employed in factories, shops and offices and the sanitation of factories, shops and offices. Factories are designated as: (i) premises in which four or more persons including the occupier are employed ('occupier' in this context may mean the employer, manager, foreman, agent or other person apparently in charge); and (ii) a small factory where less than four are employed.

Registration Fees: All factories are required to register with the Department of Labour and Industry; fees date from 1 January each year. Fees for registration range from \$2 for small factories, up to \$40 for factories employing one hundred persons, and \$20 for each additional hundred.

New Factories: The *Local Government Act* 1962 requires that plans and specifications for proposed new factory buildings be submitted to the Department of Labour and Industry before being approved by the local government authority. This ensures compliance of the proposed factory buildings with regulations in regard to natural lighting, ventilation, fire exits, fire protection, stairs, access ladders, platforms, change and meal rooms, etc.

Application for Registration: Following application for registration of premises to be used as a factory, an inspection is made. If the premises are suitable without alteration, a certificate of registration is issued. If alterations are required, a permit to occupy may be issued for a limited time, while renovations, to comply with the Act's requirements, are made. Once the factory is operating, a further inspection is made to study processes and working conditions. Any unsafe situations and practices are drawn to the attention of management.

Inspection: After the initial registration, routine inspections are made by officers of the Department to remedy or prevent unsafe conditions or unsafe practices which may have developed. Particular attention is given to overcrowding, ventilation, natural and artificial lighting, conditions of floors, etc. Access ladders and platforms are checked for compliance with prescribed standards. If contamination of the atmosphere by dust or toxic fumes is present, means of removal are studied. Safe handling and storage of dangerous substances; the provision of fire protection, fire exits and escapes; adequacy of sanitary conveniences, washing, change and meal rooms; the provision of safety equipment, etc. are periodically checked.

Accident Reports: Where accidents involving the use of machinery incapacitate, or appear likely to incapacitate, workers for seven days or more, factory management is required to notify the Department. These accidents are investigated in an endeavour to eliminate recurrences. See 'Industrial Safety and Accident Prevention' in this Chapter.

Construction Sites: Regulations also apply to working conditions on construction works and provide for suitable sanitary, washing and general amenities, in addition to general safety precautions. Where persons are required to work on any construction works at a height of not less than 20 feet above the ground or at a depth of not less than five feet below ground level, the provision of safety helmets is compulsory.

The Inspection of Machinery

Legislation: Generally, the *Inspection of Machinery Act* 1960, as amended, applies to all machinery of one or more horsepower used in manufacturing or industrial processes and specifically includes boilers, pressure vessels, lifts and cranes. By proclamation, machines not ordinarily covered by the Act may be made subject to its provisions. The Department of Labour and Industry is responsible for application of the Act which is administered by a chief inspector and district inspectors at Hobart, Launceston, Burnie and Devonport.

Machinery Inspection: An owner (defined as a person who has the control of or is in charge of machinery) acquiring machinery as defined in the Act is required to notify the nearest district inspector to obtain a certificate of safety. Inspection may reveal the need for additional safeguards before permission can be given to operate the machine; alternatively the owner may be given a set period in which to comply.

Certificates of safety are renewed annually providing the machinery satisfies current efficiency and safety standards.

Lifts Inspection: Lifts, cranes and hoists are subject to the same inspections as other machinery. In addition, design approval must be obtained before construction; tests, including beam deflections under load, are made on completion.

Boilers Inspection: Before boilers or pressure vessels are installed, the design must be approved by the Chief Inspector and conform with Australian or specified overseas standards. Inspections are made on installation and thereafter annually, unless a special investigation is required arising from plant modification, accidents or from employers' or employees' requests.

Long Service Leave for Casual Employees

Coverage

The *Long Service Leave (Casual Employment) Act* 1971, which came into force on 23 March 1972, extends long service leave entitlements to casual workers in the building and construction industry. Building and construction, for purposes of the Act, embraces a wide range of activities (construction, reconstruction, alterations, demolition, maintenance or repair of): (i) buildings; (ii) roads, bridges and railways; (iii) port, harbour and navigation facilities; (iv) water, irrigation and sewerage works; (v) pipelines; (vi) drilling rigs; (vii) structures (e.g. scaffolding or cranes) and site preparation associated with any of the forementioned purposes; and (viii) work on ships, boats or other vessels. Dunnaging of ships' holds also comes within the Act's ambit.

Calculation of Reckonable Service

Reckonable service is employment which counts towards the calculation of long service leave entitlements. The qualifying units to be accrued are periods of at least two months employment with each employer. If a person ceases work after two months or more the employer is required to furnish a certificate, showing duration of employment of the employee, to the Secretary for Labour and Industry and is also required to make a payment into the Long Service Leave (Casual Employment) Fund.

Certain interruptions to employment are counted as a part of the working period for calculation of reckonable service. Included are: (i) annual leave; (ii) leave from work caused by illness or injury and certified by a medical practitioner; (iii) leave, with consent of the employer, to attend a meeting of the Apprenticeship Commission of Tasmania or any committee appointed under the *Apprentices Act* 1942; (iv) leave resulting from on-the-job injury; (v) absence from work resulting from a summons to serve as a juror or give evidence before a court; and (vi) leave to attend to his duties as a member of a Wages Board. Absences from work caused by industrial disputes are not counted as part of service for purposes of calculating reckonable service.

When an employee has accumulated the equivalent of 15 years service he becomes entitled to a long service leave payment. In certain circumstances (e.g. employment terminated through incapacity of the employee to continue work or at any time after retiring age has been reached) long service leave may be paid after eight years work on a pro-rata basis.

Administration

The Secretary for Labour and Industry is required to maintain records showing service of each employee covered by the Act. These records are the basis for paying long service leave entitlements. Departmental inspectors are responsible for policing provisions of the Act and regulations made under it. It is the inspector's responsibility to ensure that employers maintain the necessary employment records and furnish correct certificates to the Secretary for Labour and Industry. They are permitted to carry out enquiries to ascertain whether an employee is working on a job deemed as counting towards the calculation of reckonable service. To assist inspectors carry out these duties, the Act gives them the right of access to employers' premises.

The legislation established a special trust fund, the Long Service Leave (Casual Employment) Fund, which is administered by Treasury Department officials. The main receipts into the fund are long service leave contributions paid by employers. The fund is also credited with any other receipts which may be required under the Act. From the fund are paid long service leave entitlements, costs incurred by Treasury in administering the fund and any other amount as required by the Act.

Shop Trading Hours

Legislation: Before 1967 shop trading hours were regulated by the *Factories, Shops and Offices Act* 1958, as amended. A deadlock between the two houses of the Tasmanian Parliament in 1967 resulted in the removal of all legislative restrictions on shop trading hours as from 1 January 1968.

However, a limiting factor was introduced with the adoption by Wages Boards of increased penalty rates for retail trade employees. As a result few shopkeepers have varied their trading hours from those which applied under the relevant section of the *Factories, Shops and Offices Act*.

Petrol Filling Stations: Although restrictions on shop trading hours were removed following the 1967 Parliamentary deadlock, legislation covering petrol filling station trading hours was retained. Ordinary permitted hours are 6.30 a.m. to 7.30 p.m. on week days (with an extra two hours on Friday evening) and 12.30 p.m. closing on Saturdays and public holidays. However, a system operates to give the public an opportunity to buy petrol outside these hours and on Sundays at rostered filling stations.

TRADE UNIONS

Details of membership of trade unions are collected at 31 December each year. The following table shows details of the number of unions and the number of members in Tasmania:

Trade Unions: Numbers and Membership

Year Ended 31 December	Number of Separate Unions	Number of Members (^{'000})	Increase in Membership (a) (Per Cent)
1939	79	22.1	..
1966	110	65.5	3.2
1967	107	68.1	4.0
1968	112	68.2	0.1
1969	112	69.9	2.4
1970	114	73.9	5.7
1971	111	75.2	1.8

(a) On preceding year.

Details of the numbers and membership of trade unions in the various industry groups are shown below. However, this table does not provide a precise classification because where the members of a union are employed in a number of industries, they have been classified to the predominant industry covered by that union.

Trade Unions: Numbers and Membership by Industry Group

Year Ended 31 December	Manufac- turing	Building and Construc- tion	Transport	Public Authority (a)	Other (b)	All Groups
NUMBER OF SEPARATE UNIONS						
1966	32	6	15	27	30	110
1967	29	6	14	28	30	107
1968	31	6	14	29	32	112
1969	30	6	14	29	33	112
1970	32	6	15	30	31	114
1971	33	5	15	28	30	111
NUMBER OF MEMBERS (^{'000})						
1966	22.0	4.8	6.6	15.8	16.4	65.5
1967	22.6	4.5	6.7	16.8	17.6	68.1
1968	22.4	4.3	6.9	17.3	17.3	68.2
1969	24.0	4.3	6.6	17.9	17.0	69.9
1970	25.0	4.1	6.7	18.6	19.7	73.9
1971	24.9	3.2	6.7	19.4	20.9	75.2

(a) Includes: communication and municipal, etc.

(b) Includes, agriculture, etc.; mining and quarrying; banking; insurance; clerical, wholesale and retail trade; amusements, hotels, personal service, etc.; and community and business services.

PRICES

Retail Prices and Price Indexes

General

The description of price indexes that follows is mainly an abridgement of the text appearing in the *Labour Report* of the Commonwealth Bureau of Census and Statistics; this report is a basic document in any serious study of official price indexes.

Retail Price Index Numbers from 1901

Retail prices of food and groceries and average rentals of houses for periods extending back to the year 1901 were collected by the Commonwealth Statistician. A continuous price series from 1901 to the present day (shown below) has been constructed from the various indexes in use during this period to provide a broad indication of long-term trends in retail price levels. The index numbers are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: 1901-1914, the 'A' Series; from 1914 to 1946-47, the 'C' Series; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series excluding rent; and from 1948-49, the Consumer Price Index. It should be noted that this long-term series is for the six capital cities combined, *not for Hobart alone*.

Retail Price Index Numbers from 1901
Six State Capital Cities Combined
 (Base: Year 1911 = 100)

Year	Index Number	Year	Index Number	Year	Index Number
1901	88	1936.. .. .	141	1966	517
1911	100	1941.. .. .	167	1967	534
1916 (a)	132	1946.. .. .	190	1968	548
1921 (a)	168	1951.. .. .	313	1969	564
1926	168	1956.. .. .	419	1970	586
1931	145	1961.. .. .	471	1971	621

(a) November; remaining figures are averages for the respective years.

Consumer Price Index

The index currently in use is the Consumer Price Index. A comprehensive view of the present composition and weighting of the Consumer Price Index is given in the following table. The weights shown are those comprising the index for the six State capital cities combined. Broadly they are based on the estimated pattern of consumption for the period 1962-63 to 1966-67 valued at relevant prices of December quarter 1968. The weighting indicates the relative influence given to the various components in measuring the degree of price change in the index from December quarter 1968 (i.e. from the beginning of the current linked series).

Consumer Price Index
Composition and Weighting Pattern at December Quarter 1968 for the Six State Capital Cities Combined

Group, Section, etc.	Percentage Weight	
	Section, etc.	Group
Food—		
Cereal Products—Bread, Flour, Biscuits, Rice and Breakfast Foods	4.1	31.3
Dairy Produce—Milk, Cheese, Butter and Eggs	6.0	
Potatoes, Onions, Preserved Fruit and Vegetables—Potatoes and Onions, Canned and Dried Fruits, and Canned and Frozen Vegetables	2.7	
Soft Drink, Ice Cream and Confectionery	4.3	
Other (except Meat)—Sugar, Jam, Margarine, Tea, Coffee, Baby Foods, and Sundry Canned and Other Foods	3.3	
Meat—Butcher's (Beef, Mutton, Lamb and Pork)	8.4	
Processed (Bacon, Smallgoods and Canned Meat) including Poultry ..	2.5	

Consumer Price Index

Composition and Weighting Pattern at December Quarter 1968 for the Six State Capital Cities Combined—
continued

Group, Section, etc.	Percentage Weight	
	Section, etc.	Group
Clothing and Drapery—		
Clothing—		
Men's	3.6	14.1
Women's	5.0	
Boys'	0.6	
Girls'	0.8	
Piecegoods, etc.—Wool, Cotton and Rayon Cloth, Nursery Squares and Knitting		
Wool	0.8	14.2
Footwear—Men's, Women's and Children's	2.5	
Household Drapery—Bedcloths, Towels, Tablecloths, etc.	0.8	
Housing—		
Rent—Privately Owned Houses	2.1	14.2
Government Owned Houses	0.9	
Privately Owned Flats	3.1	
Home Ownership—House Price	3.4	
Rates	2.7	12.5
Repairs and Maintenance	2.0	
Household Supplies and Equipment—		
Fuel and Light—Electricity	2.4	12.5
Gas	1.0	
Other (Firewood, Heating Oil, Briquettes and Kerosene)	0.6	
Household Appliances—Refrigerator, Washing Machine, Stove, Radio Set, Television Set, Vacuum Cleaner, Electric Iron, etc.	2.6	27.9
Other Household Articles—		
Furniture and Floor Coverings	1.9	
Kitchen and Other Utensils, Gardening and Small Tools	0.7	
Household Sundries (Household Soaps, etc.)	1.0	
Personal Requisites (Toilet Soap, Cosmetics, etc.)	1.2	
Proprietary Medicines	0.9	
School Requisites	0.2	
Miscellaneous—		
Transport—Fares—Train	1.0	27.9
Tram and Bus	1.5	
Private Motoring—Car Purchase	3.4	
Car Operation	5.8	
Tobacco and Cigarettes	3.6	
Beer	3.7	
Services—Health (Dentist, Doctor, Hospital)	3.3	
Hairdressing (Haircut, Wave, etc.)	0.7	27.9
Drycleaning	0.5	
Shoe Repairs	0.2	
Postal and Telephone Services	1.1	
Other—Radio and Television Operation	1.1	
Cinema Admission	0.8	
Newspapers and Weekly Magazines	1.2	
Total	100.0	100.0

Six Capital Cities Index: The Six Capital Cities Consumer Price Index is derived as the weighted average of the indexes for the individual cities, the basis of weighting being their populations as recorded at successive censuses.

Comparison of the Six Linked Series: The Consumer Price Index is a chain of 'fixed weight aggregative' indexes, with significant changes in composition and weighting effected at the linking dates; the principal changes were:

- (i) June quarter 1952—introduction of private motoring; changed proportions for modes of house occupancy; change in weights of fuel and fares.
- (ii) June quarter 1956—changed proportions in modes of house occupancy; changed weights for fuel, fares and private motoring.
- (iii) March quarter 1960—introduction of television.
- (iv) December quarter 1963—changed weights for fuel, light, fares and motoring; revised housing weights.
- (v) December quarter 1968—changed weights for all items; introduction of poultry, rented privately-owned flats, heating oil, briquettes and health services (by dentists, doctors, hospitals and health insurance funds).

The next table has been compiled to show the percentage contribution to the total index of each of the major groups, first at the beginning of each series, and then at the quarter in which the linking transition was made.

Consumer Price Index: Analysis of Weighting in Six Linked Series

Linked Series	Percentage Contribution to Total Index (Weighted Average, Six Capital Cities)					
	Food Group	Clothing and Drapery Group	Housing Group	Household Supplies and Equipment Group	Miscellaneous Group	Total
First—						
June Quarter 1949 ..	31.3	22.8	11.4	13.1	21.4	100.0
June Quarter 1952 (a)	35.7	23.0	9.2	12.2	19.9	100.0
Second—						
June Quarter 1952 (b)	33.6	21.6	9.4	11.7	23.7	100.0
June Quarter 1956 (a)	34.3	20.0	10.5	10.9	24.3	100.0
Third—						
June Quarter 1956 (b)	33.7	19.7	10.5	11.6	24.5	100.0
March Quarter 1960 (a)	33.0	19.5	11.0	11.5	25.0	100.0
Fourth—						
March Quarter 1960 (b)	32.1	19.0	10.7	13.2	25.0	100.0
Dec. Quarter 1963 (a)	31.6	18.8	12.0	12.6	25.0	100.0
Fifth—						
Dec. Quarter 1963 (b)	32.1	16.9	12.6	14.5	23.9	100.0
Dec. Quarter 1968 (a)	32.8	15.8	13.2	13.1	25.1	100.0
Sixth—						
Dec. Quarter 1968 (b)	31.3	14.1	14.2	12.5	27.9	100.0

(a) Change in proportions due to disparate price movements during short period shown.

(b) Change in proportions due to deliberate changes in composition or weighting.

Consumer Price Index, Hobart

The Consumer Price Index for Hobart is compiled to the base 1966-67 = 100.0, the number 100.0 being the base value for each of the five major groups (Food, Clothing and Drapery, Housing, etc.) and also for the 'All Groups' index.

The following table has been compiled to show group index movements for Hobart on a quarterly basis:

Consumer Price Index: Quarterly Group Index Numbers, Hobart (a)
(Base of Each Index: Year 1966-67 = 100.0)

Quarter	Food	Clothing and Drapery	Housing	Household Supplies and Equipment	Miscellaneous	All Groups
1967-68—September ..	108.6	101.5	101.7	101.2	103.2	104.3
December ..	107.5	102.3	103.7	103.4	104.7	105.0
March ..	105.9	102.5	104.1	103.3	104.8	104.6
June ..	105.1	103.1	104.7	103.7	105.3	104.6
1968-69—September ..	105.1	103.5	105.5	104.1	106.3	105.0
December ..	105.3	104.5	108.4	104.1	107.3	105.8
March ..	105.1	104.7	109.4	104.7	109.0	106.5
June ..	105.8	105.3	110.1	105.2	109.4	107.0
1969-70—September ..	105.6	106.2	110.6	105.5	110.0	107.4
December ..	106.0	107.6	112.3	105.8	110.4	108.1
March ..	106.9	108.2	113.2	106.3	111.2	108.9
June ..	106.9	109.4	114.1	106.9	112.5	109.6
1970-71—September ..	108.4	109.5	115.0	107.6	112.2	110.2
December ..	110.1	111.0	117.0	108.4	116.3	112.4
March ..	109.5	112.0	118.2	109.1	118.3	113.2
June ..	110.2	115.0	119.2	111.6	119.4	114.6
1971-72—September ..	111.3	115.9	120.4	112.4	121.6	115.9
December ..	113.0	118.2	124.1	117.4	128.2	119.7
March ..	113.5	118.7	125.3	117.7	128.7	120.3
June ..	113.9	121.1	126.8	118.1	130.0	121.4

(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

The following table shows the 'All Group' index numbers for Hobart, quarter by quarter, and also as averages for financial years:

Consumer Price Index: All Groups Index Numbers, Hobart (a)
(Base of Index: Year 1966-67 = 100.0)

Year	Quarter Ending—				Average for Year
	September	December	March	June	
1959-60	84.8	85.1	85.6	86.8	85.6
1960-61	89.1	90.0	90.9	91.3	90.3
1961-62	91.4	90.9	90.3	90.3	90.7
1962-63	90.4	90.8	90.7	90.8	90.7
1963-64	91.2	91.4	91.9	92.2	91.7
1964-65	93.3	94.5	94.9	95.8	94.6
1965-66	97.0	98.3	97.8	98.7	98.0
1966-67	98.6	99.2	100.6	101.5	100.0
1967-68	104.3	105.0	104.6	104.6	104.6
1968-69	105.0	105.8	106.5	107.0	106.1
1969-70	107.4	108.1	108.9	109.6	108.5
1970-71	110.2	112.4	113.2	114.6	112.6
1971-72	115.9	119.7	120.3	121.4	119.3

(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

The next table shows, as averages for financial years, the group indexes for Hobart:

Consumer Price Index: Annual Group Index Numbers, Hobart, (a)
(Base of Each Index: Year 1966-67 = 100.0)

Year	Food	Clothing and Drapery	Housing	Household Supplies and Equipment	Miscellaneous	All Groups
1961-62	90.2	94.7	85.6	97.5	87.5	90.7
1962-63	88.9	95.2	88.2	97.1	87.6	90.7
1963-64	90.1	95.7	90.9	97.1	88.4	91.7
1964-65	94.0	97.0	94.5	97.6	92.0	94.6
1965-66	98.9	98.0	97.1	98.6	96.7	98.0
1966-67	100.0	100.0	100.0	100.0	100.0	100.0
1967-68	106.8	102.4	103.6	102.9	104.5	104.6
1968-69	105.3	104.5	108.4	104.5	108.0	106.1
1969-70	106.4	107.9	112.6	106.1	111.0	108.5
1970-71	109.6	111.9	117.4	109.2	116.6	112.6
1971-72	112.9	118.5	124.2	116.4	127.1	119.3

(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

Average Prices of Foodstuffs, Hobart

The average retail prices of selected foodstuffs in Hobart since 1950 are shown in the next table. The list, while representative of foodstuffs commonly consumed, is not exhaustive; for a description of foodstuffs in the Consumer Price Index regimen, see the earlier table 'Consumer Price Index, Composition and Weighting Pattern'.

Average Retail Prices (a): Hobart
Selected Items of Foodstuffs
(Cents)

Article	Unit (a)	1950	1955	1960	1965	1970	1971
Bread (Delivered)	2 lb	6.6	12.0	14.2	15.8	21.3	23.5
Flour (Plain)	"	4.7	9.5	11.8	13.7	17.5	17.4
Tea	$\frac{1}{2}$ lb	15.2	36.6	34.2	32.9	30.7	32.0
Sugar (b)	1 lb	4.2	7.5	9.3	9.5	11.1	10.9
Potatoes	7 lb	17.7	41.2	34.5	69.2	44.9	45.9
Butter (Factory)	1 lb	22.0	43.4	46.9	49.6	55.0	56.3
Eggs (c)	doz	33.5	55.8	56.7	61.0	67.7	64.5
Bacon (Rashers) (d) ..	1 lb	32.6	57.4	68.3	89.2	100.9	100.2
Milk, Bottled, Delivered ..	qt	9.5	16.5	17.3	17.8	20.2	21.8
Beef—							
Rump Steak	1 lb	22.8	47.4	65.9	79.4	93.9	100.2
Corned Silverside	"	16.9	34.0	44.2	51.6	63.0	65.5
Mutton—							
Leg	"	11.8	23.8	24.9	29.8	26.9	27.3
Loin Chops	"	11.5	18.9	19.0	25.2	23.8	26.0
Pork, Leg	"	26.9	41.8	53.9	61.8	66.8	67.5

(a) The table units are not necessarily those for which the original price data were obtained (see notes (b) and (d)). In such cases, prices have been calculated for the table unit.

(b) Prices obtained for one pound prior to 1966; for four pound packets from 1966.

(c) 'Large' prior to 1964; 'two ounce' eggs from 1964.

(d) Prices obtained for one pound prior to 1966; for half a pound from 1966.

Wholesale Price Indexes

General

The Bureau compiles two wholesale price indexes of basic materials. These are the 'Wholesale Price Index of Materials used in House Building' and the 'Wholesale Price Index of Materials used in Building other than House Building'. Two other indexes, the 'Melbourne Wholesale Price Index' and the 'Wholesale Prices (Basic Materials and Foodstuffs) Index', were compiled for a number of years but have been discontinued.

Wholesale Price Index of Materials Used in House Building

General: This index is complementary to the 'Other than House Building' index and measures the change in prices of selected materials used in house construction. The two building indexes constitute an up-to-date replacement for the 'Building Materials Group' of the now obsolete Wholesale Prices (Basic Materials and Foodstuffs) Index.

Scope and Composition: The materials selected and weights given to the items were in accordance with the usage of materials in a sample of representative house types constructed in or about 1968-69. The house types included in the sample were those using brick, brick veneer, timber or asbestos-cement sheeting for the outer-walls. Within the four major construction types account was taken of a range of characteristics, e.g. material used for internal partitions, window frames, roofs, etc. The number of items included in the index range from 49 (Brisbane) to 51 (Perth). The items are combined into 11 groups; an 'all groups' index is also published. Standards are fixed for items and price movements are for items of a constant quality.

Derivation of Items and Weights: The index is a fixed weight index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'. The items and weights used are based on the reported values of materials used in the selected houses in each State capital city urban area. Information about materials used and their value was obtained for a total of 114 houses. The material values derived for each State capital city were then used to develop weighting patterns for the individual cities and aggregated to give a weighting pattern for the six State capital cities combined. The next table gives the weighting pattern for the Hobart index.

Wholesale Price Index of Materials Used in House Building
Composition and Weighting Pattern: Hobart

Group	Percentage Weight of Group
Concrete Mix, Cement and Sand	7.25
Cement Products	7.01
Clay Bricks, Tiles, etc.	10.14
Timber, Board and Joinery	38.15
Steel Products	7.49
Other Metal Products	7.93
Plumbing Fixtures, etc.	2.74
Electrical Installation Materials	1.61
Installed Appliances	6.98
Plaster and Plaster Products	4.99
Miscellaneous Materials	5.71
Total	100.00

Base Period: The index has a base year 1966-67 = 100.0 but the weighting pattern is more appropriate to material usage during 1968-69.

Prices: Prices relate to specified standards for each commodity and are obtained in all State capital city urban areas from representative suppliers of materials used in house building. The prices are collected as at the mid-point of the month to which the index refers.

Index Numbers: The index has been compiled for each month from July 1966 and for financial years from 1966-67. Index numbers are published for each group and combined into an all groups number for each State capital city and the six State capital cities combined.

The following table compares movements in the index numbers for each of the six capital cities and six capitals combined since 1967-68. (The separate city indexes allow comparisons to be drawn between capital city areas as to differences in the degree of price movement from period to period, but not as to differences in price levels.)

Wholesale Price Index of Materials Used in House Building
All Groups Index Numbers: Six State Capital Cities
 (Base of Each Index: Year 1966-67 = 100.0)

Period	State Capital Cities						Weighted Average of Six State Capital Cities
	Sydney	Mel- bourne	Brisbane	Adelaide	Perth	Hobart	
1967-68	103.4	101.3	103.4	102.1	104.0	101.8	102.7
1968-69	109.3	103.6	105.6	107.0	105.9	104.1	106.3
1969-70	115.2	107.2	109.4	112.4	110.3	107.7	110.9
1970-71	119.8	112.3	115.2	116.7	113.9	114.3	115.7
1971-72	126.1	118.9	124.8	124.8	121.1	120.7	122.7
1971-72—							
September	124.8	117.3	121.3	122.5	119.5	118.9	121.0
December	126.2	118.6	123.4	124.7	121.1	120.0	122.5
March	126.8	119.7	128.4	126.4	121.8	121.9	123.9
June	128.2	121.7	129.2	128.8	123.5	126.3	125.6

Index numbers for the Hobart capital city urban area for each group of items are given in the next table:

Wholesale Price Index of Materials Used in House Building
Group Index Numbers: Hobart
 (Base of Each Index: Year 1966-67 = 100.0)

Period	Concrete Mix, Cement and Sand	Cement Products	Clay Bricks, Tiles, etc.	Timber, Board and Joinery	Steel Products	Other Metal Products
1967-68	104.8	100.9	104.6	100.8	100.9	103.3
1968-69	108.0	105.3	109.6	102.8	104.0	102.5
1969-70	109.1	110.4	111.7	105.4	110.4	108.3
1970-71	116.0	114.6	120.6	113.9	116.5	113.7
1971-72	123.6	124.2	123.8	120.3	129.2	117.1
1970-71—						
September	111.5	110.7	119.4	109.4	114.3	109.5
December	117.8	111.8	121.6	111.6	115.6	112.8
March	118.9	118.9	122.0	118.7	119.2	118.2
June	118.9	119.6	120.5	118.8	122.0	116.7
1971-72—						
September	120.8	119.7	120.8	119.2	126.4	116.4
December	120.8	123.1	121.9	119.7	127.9	117.1
March	129.4	125.8	126.1	120.0	133.1	117.1
June	129.5	136.1	130.9	127.0	133.7	117.5

Wholesale Price Index of Materials Used in House Building
Group Index Numbers: Hobart—continued
(Base of Each Index: Year 1966-67 = 100.0)

Period	Plumbing Fixtures, etc.	Electrical Installation Materials	Installed Appliances	Plaster and Plaster Products	Miscellan- eous Materials	All Groups
1967-68	101.9	103.5	100.1	100.2	102.3	101.8
1968-69	104.5	105.9	99.9	104.6	103.1	104.1
1969-70	115.8	118.2	100.9	105.3	110.0	107.7
1970-71	123.8	115.9	102.5	108.1	115.5	114.3
1971-72	132.8	120.9	105.8	113.5	123.3	120.7
1970-71—						
September	123.2	117.9	101.7	106.5	113.9	111.1
December	123.6	115.3	102.0	107.5	114.3	113.1
March	126.6	113.0	103.8	107.6	117.2	117.5
June	125.9	116.0	103.0	111.5	118.4	117.8
1971-72—						
September	128.8	119.0	106.3	111.5	121.3	118.9
December	134.2	121.0	105.2	114.1	123.3	120.0
March	134.4	121.0	106.5	114.1	123.9	121.9
June	139.7	123.9	107.2	114.2	127.9	126.3

Wholesale Price Index of Materials Used in Building Other Than House Building

General: This was the first of a series of indexes designed to replace the obsolete Wholesale Price (Basic Materials and Foodstuffs) Index. The index measures changes in the prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (in general, those up to three storeys).

Scope and Composition: Composition of the index is in accordance with actual material usage in building projects which were selected as being representative for purposes of determining weighting patterns. Completed values of the types of buildings selected constituted 86 per cent of all completed new buildings other than houses and low-rise flats in the period 1964-65 to 1966-67. Buildings for entertainment, recreation and religious purposes together with buildings in the building statistics category 'miscellaneous buildings' are not directly represented.

The index comprises 72 items combined into 11 groups. Items are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality. The group weighting pattern is given in the next table:

Wholesale Price Index of Materials Used in Building Other Than House Building
Composition and Weighting Pattern

Group	Percentage Weight of Group
Concrete Mix, Cement, Sand, etc.	10.41
Cement Products	3.64
Bricks, Stone, etc.	5.28
Timber, Board and Joinery	11.90
Steel and Iron Products	30.58
Aluminium Products	6.01
Other Metal Products	2.59
Plumbing Fixtures	1.19
Miscellaneous Materials	7.09
Electrical Installation Materials	8.61
Mechanical Services Components	12.70
Total	100.00

Base Period: The reference base of the index is the year 1966-67 = 100.0. The index is a fixed-weights index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'.

Prices: Price series used relate to specified standards of each commodity and are obtained in all State capital city urban areas from representative suppliers of materials used in building. In the main they are collected as at the mid-point of the month to which the index refers, or as near thereto as practicable. There are some exceptions to the use of local prices in the indexes for each capital city area. In a few cases where suitable price series are not currently available for an item in a given city, imputation is necessary. For each capital city area, the whole of the group 'Electrical Installation Materials' and the majority of the items in the group 'Mechanical Services Components' are based on Sydney and Melbourne price series.

Index Numbers: The index has been compiled for each month from July 1966, and for financial years from 1966-67.

The separate city indexes measure price movements within each metropolitan area individually. They enable comparisons to be drawn between metropolitan areas as to differences in degree of price movement from period to period, but not as to differences in price level.

The following table compares movements in the index numbers for each of the six Capital Cities and the six Capitals combined:

Wholesale Price Index of Materials Used in Building Other Than House Building

All Groups Index Numbers: Six State Capital Cities

(Base of Each Index: Year 1966-67 = 100.0)

Period	State Capital Cities						Weighted Average of Six State Capital Cities
	Sydney	Mel- bourne	Brisbane	Adelaide	Perth	Hobart	
1967-68	102.6	101.7	102.2	101.8	102.0	102.3	102.2
1968-69	106.5	105.0	105.1	105.0	104.7	105.1	105.6
1969-70	111.7	109.8	110.3	109.4	108.9	109.7	110.5
1970-71	116.4	115.1	116.4	113.9	113.3	115.0	115.5
1971-72	122.4	123.9	124.4	122.7	121.3	122.6	123.0
1971-72—							
July	120.5	120.7	120.3	119.0	118.1	119.0	120.2
August	121.4	121.8	121.6	120.5	119.1	120.7	121.3
September	122.1	122.3	122.5	121.0	119.9	121.1	121.9
October	122.0	122.8	122.9	121.4	120.3	121.5	122.1
November	122.4	123.1	123.5	122.6	121.0	121.9	122.6
December	122.5	123.1	123.6	122.7	121.1	122.0	122.7
January	122.2	123.7	124.4	122.8	121.4	122.1	122.9
February	122.7	124.3	125.4	123.0	121.6	122.4	123.4
March	123.1	125.2	126.6	123.9	122.3	124.3	124.2
April	123.2	125.7	126.9	124.4	123.1	124.7	124.5
May	123.4	126.4	127.3	125.4	123.5	125.1	125.0
June	123.3	127.3	127.2	125.8	123.7	126.4	125.2

Index numbers for the Hobart urban area for each group of items are given in the following table:

Wholesale Price Index of Materials Used in Building Other Than House Building
Group Index Numbers: Hobart
(Base of Each Index: Year 1966-67 = 100.0)

Period	Concrete Mix, Cement, Sand, etc.	Cement Products	Bricks, Stone, etc.	Timber, Board and Joinery	Steel and Iron Products	Aluminium Products
1967-68	104.8	100.4	103.1	101.7	102.5	100.8
1968-69	108.0	103.8	108.5	103.8	105.5	99.6
1969-70	109.1	107.1	111.3	108.9	109.8	100.9
1970-71	116.0	112.8	118.3	116.6	114.6	106.6
1971-72	123.4	123.7	118.3	122.2	126.4	110.8
1969-70—						
September	108.8	106.6	109.5	108.1	107.6	100.4
December	109.0	106.6	109.8	108.1	107.9	100.8
March	109.0	107.6	109.6	108.7	112.2	101.2
June	111.2	107.6	116.3	112.1	112.9	101.1
1970-71—						
September	111.8	110.2	118.5	113.0	113.0	101.1
December	117.8	112.0	120.1	115.1	113.3	106.1
March	118.6	116.3	120.7	120.2	116.0	112.6
June	118.7	117.0	115.5	120.6	119.1	110.0
1971-72—						
September	120.7	117.4	116.5	121.1	124.8	110.0
December	120.7	120.3	118.4	122.0	125.6	111.0
March	129.0	127.5	118.4	122.2	129.7	111.0
June	129.2	137.8	124.2	127.7	129.8	111.4

Wholesale Price Index of Materials Used in Building Other Than House Building
Group Index Numbers: Hobart—continued
(Base of Each Index: Year 1966-67 = 100.0)

Period	Other Metal Products	Plumbing Fixtures	Miscellan- eous Materials	Electrical Installation Materials (a)	Mechanical Services Compon- ents (a)	All Groups
1967-68	105.9	103.2	101.7	100.9	101.4	102.3
1968-69	103.1	105.5	103.0	102.1	107.7	105.1
1969-70	122.3	114.0	107.5	112.2	111.8	109.7
1970-71	125.3	122.7	111.6	110.9	118.9	115.0
1971-72	126.0	135.1	115.8	114.7	127.5	122.6
1969-70—						
September	117.3	111.5	103.9	111.3	109.3	108.0
December	124.0	114.4	107.5	112.7	109.4	108.7
March	124.0	115.3	109.4	113.4	115.1	111.1
June	125.0	116.4	109.7	113.6	115.3	112.4
1970-71—						
September	125.0	120.8	110.7	111.5	116.6	112.9
December	123.2	121.6	110.9	109.4	116.9	114.2
March	125.9	125.5	111.8	110.6	121.8	117.2
June	126.8	127.5	114.7	111.6	122.7	118.2
1971-72—						
September	125.9	130.2	115.2	114.2	126.5	121.1
December	125.9	137.0	115.9	114.2	128.0	122.0
March	125.9	137.0	115.3	115.4	128.5	124.3
June	124.7	144.9	116.8	117.2	129.5	126.4

(a) The whole of the group 'Electrical Installation Materials' and the majority of items in the group 'Mechanical Services Components' are based on Melbourne and Sydney price series.

Australian Export Price Index

This index has fixed-weights, its purpose being to provide monthly comparisons over a limited number of years of the level of export prices of the selected items, making no allowance for variations in quantities exported. The index numbers are thus measures of price change only. The price series used in the index relate to specific standards for each commodity and in most cases are combinations of prices for a number of representative grades, types, etc. For some commodities, price movements in the predominant market, or markets, are used, while for other commodities average realisations in all export markets are used. As nearly as possible, prices used are on the basis f.o.b. at the main Australian ports of export.

At present a comprehensive review of the composition and weighting of the index is being undertaken. An interim series, using weights based on the values of 1969-70 exports has been published from June 1969. The interim series contains four new items (iron ore, bauxite, alumina and mineral sands) which have been incorporated in the all groups index. In the next table index numbers for 1969-70 and later are not strictly comparable with those for earlier years.

Export Price Index Numbers: Australia
(Base of Each Index: Year 1959-60 = 100)

Period	Wool	Meats	Dairy Pro- duce	Cereals	Dried and Canned Fruits	Sugar	Hides and Tallow	Metals and Coal	Gold	All Groups
1967-68 ..	95	125	79	109	95	67	67	120	104	100
1968-69 ..	99	131	72	104	97	72	73	123	117	102
1969-70 (a) ..	87	148	73	96	99	93	94	143	109	103
1970-71 ..	67	152	88	100	102	113	94	139	109	101
1971-72 ..	72	147	135	99	103	127	96	138	126	104
1971-72—										
September ..	63	146	121	101	103	109	92	136	118	100
December ..	63	141	138	96	104	106	89	135	121	100
March ..	77	147	148	96	102	148	96	142	133	108
June ..	97	156	142	96	103	157	112	142	(c) 141	114

(a) Break in continuity due to re-weighting of the items and inclusion of some additional items.

(b) In addition to the specified groups, from July 1969 the 'All Groups Index' includes iron ore, bauxite, alumina and mineral sands.

(c) Nominal.

WAGES

Basic Wage in Tasmania

General

The present position is as follows: wages fixed by Tasmanian State Wages Boards still consist of two parts, namely a *basic wage* and a *margin*; wages fixed by the Commonwealth Conciliation and Arbitration Commission are expressed as a *total wage*, the basic wage concept having been abolished in Commonwealth awards in 1967. All State industrial authorities with the exception of Victoria's have also retained the basic wage concept. A fuller history of the basic wage will be found in the 1970 *Year Book*.

Male Basic Wage Rates from 1953

The following table has been compiled to show the Commonwealth basic wage rates operating in Australian capital cities before the decision of 5 June 1967 (when the basic wage concept was eliminated from Commonwealth awards):

Commonwealth Basic Wage: Weekly Rates, Adult Males
(£)

Date Operative (a)	Sydney	Mel-bourne	Brisbane	Adelaide	Perth	Hobart	Six Capital Cities
August 1953	24.30	23.50	21.80	23.10	23.60	24.20	23.60
June 1956	25.30	24.50	22.80	24.10	24.60	25.20	24.60
15 May 1957	26.30	25.50	23.80	25.10	25.60	26.20	25.60
21 May 1958	26.80	26.00	24.30	25.60	26.10	26.70	26.10
11 June 1959	28.30	27.50	25.80	27.10	27.60	28.20	27.60
7 July 1961	29.50	28.70	27.00	28.30	28.80	29.40	28.80
19 June 1964	31.50	30.70	29.00	30.30	30.80	31.40	30.80
11 July 1966	33.50	32.70	31.00	32.30	32.80	33.40	32.80

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

Female Basic Wage Rates from 1953

The following table summarises the Commonwealth basic wage applicable to females from 1953. Prior to 1950, female basic wage rates had been approximately 54 to 56 per cent of male rates but the Court of Conciliation and Arbitration in its judgment in December of that year fixed the relativity at 75 per cent.

Commonwealth Basic Wage Rate, Hobart: Adult Females
(£)

Date Operative (a)	Weekly Rate	Date Operative (a)	Weekly Rate	Date Operative (a)	Weekly Rate
August 1953	18.15	21 May 1958 ..	20.00	19 June 1964 ..	23.55
June 1956	18.90	11 June 1959 ..	21.15	11 July 1966 ..	25.05
15 May 1957	19.65	7 July 1961 ..	22.05	5 June 1967 ..	(b)

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

(b) Abolition of Federal basic wage; see later section headed 'Equal Pay Legislation'.

State Basic Wage Rates

The following table shows the awards and determinations made by State industrial authorities after the basic wage was abolished in Commonwealth awards in June 1967:

State Basic Wage Rates Prior To and After Abolition of Commonwealth Basic Wage
(£)

Date of Operation (a)	Adult Males	Adult Females	Date of Operation (a)	Adult Males	Adult Females
TASMANIAN BASIC WAGE: HOBART					
1966 11 July	33.40	25.05	1969 19 December	36.80	28.20
1967 1 July	34.40	26.05	1971 1 January ..	39.00	29.90
1968 25 October ..	35.75	27.40	1972 19 May	41.00	31.90
NEW SOUTH WALES BASIC WAGE: SYDNEY					
1966 11 July	33.50	25.10	1969 19 December	36.90	28.30
1967 1 July	(b)	(b)	1971 1 January ..	39.10	30.00
1968 1 January ..	34.50	26.10	1972 19 May	41.10	32.00
1968 25 October ..	35.85	27.45			

State Basic Wage Rates Prior To and After Abolition of Commonwealth Basic Wage—continued
(£)

Date of Operation (a)	Adult Males	Adult Females	Date of Operation (a)	Adult Males	Adult Females
QUEENSLAND BASIC WAGE: BRISBANE					
1966 23 May ..	32.70	24.55	1969 22 December	36.65	28.05
1967 10 April ..	33.20	24.90	1971 4 January ..	38.85	29.75
1967 3 July ..	(b)	(b)	1972 29 May ..	41.00	31.85
1968 28 October ..	35.55	27.25			
SOUTH AUSTRALIAN LIVING WAGE: ADELAIDE					
1966 11 July ..	32.30	24.20	1969 22 December	(b)	(b)
1967 3 July ..	33.30	25.20	1971 4 January ..	37.85	29.00
1968 28 October ..	34.65	26.55	1972 19 May ..	39.85	31.00
WESTERN AUSTRALIAN BASIC WAGE: PERTH					
1966 2 August ..	33.26	24.95	1968 22 November	35.45	27.08
1966 24 October ..	33.50	25.13	1969 24 November	36.45	27.88
1967 1 July ..	(b)	(b)	1970 26 October ..	38.45	29.40
1968 25 October ..	(b)	(b)	1972 26 June ..	40.45	32.40
VICTORIAN BASIC WAGE: MELBOURNE					
1966 11 July ..	32.70	24.50	1967 1 July ..	(c)	(c)

(a) Rates operative from the first pay-period commencing on or after the date shown.

(b) Special loadings (N.S.W., \$1; Qld, \$1; S.A., 3 per cent; W.A., \$0.60 from 1.7.67 and a further \$1.35 from 25.10.68) were added to award rates but later absorbed into the basic wage.

(c) Basic wage and margins deleted from determinations; subsequently rates expressed as total wages.

Minimum Wages

The Commonwealth Conciliation and Arbitration Commission announced in its decision of 8 July 1966 that it intended to grant relief to low wage earners by inserting a provision prescribing a minimum wage. It ordered that the minimum male wage paid under the Metal Trades Award should be the appropriate basic wage plus \$3.75 a week (e.g. in Tasmania a basic wage of \$33.40 plus \$3.75 giving a minimum wage of \$37.15).

Tasmanian Wages Boards introduced the concept of the minimum wage into their determinations in June 1967. Weekly minimum wage rates prescribed in Commonwealth and State awards are shown in the following table:

Minimum Wages, Adult Males: Commonwealth Commission and Tasmanian State Wages Boards
(£)

Date Operative (a)	Commonwealth Awards	Tasmanian State Wages Boards Determinations
11 July 1966 ..	37.15	
1 July 1967 ..	38.15	38.15
25 October 1968 ..	39.50	40.45
19 December 1969 ..	43.00	43.00
1 January 1971 ..	47.00	47.00
19 May 1972 ..	51.70	51.70

(a) Rates operative from the first pay-period commencing on or after the date shown.

Wage Margins in Tasmania

General

Wage margins have been defined as 'minimum amounts awarded above the basic wage to particular classifications of employees for the features attaching to their work which justify payments above the basic wage, whether these features are the skill or experience required for the performance of that work, its particularly labourious nature, or the disabilities attached to its performance' (*Commonwealth Arbitration Report*, Vol. 80).

Marginal rates of wages were determined both by Commonwealth and State industrial tribunals (in Tasmania, by State Wages Boards) before an award of the Commonwealth Conciliation and Arbitration Commission in June 1967 introduced a new industrial concept, *the total wage*, in Commonwealth awards. In the Commonwealth jurisdiction, prior to 1954, the Commonwealth Court of Conciliation and Arbitration had not made any general determination in respect of wage margins, but general principles of marginal rate fixation had been enunciated by the Court in the Engineers' Case of 1924, the Merchant Service Guild Case of 1942 and the Printing Trades Case of 1947. Major determinations affecting margins were made in the Commonwealth jurisdiction in 1954, 1959, 1963 and 1965 (the 1965 hearing resulted in a determination affecting margins generally even though conceived originally by the claimant trade unions as concerned purely with basic wage issues). The decisions of the Commonwealth Court (and later of the Commonwealth Conciliation and Arbitration Commission) have generally been followed by State industrial tribunals in the determination of margins in State awards. The Tasmanian State Wages Boards have undoubtedly been influenced in their margins determinations by those made in the Commonwealth jurisdiction, although an independent policy has sometimes been pursued (e.g. special 15 per cent marginal increases for certain tradesmen in the State sphere in 1963, as opposed to 10 per cent increases granted in the Commonwealth jurisdiction).

Margins were eliminated from Federal awards with the introduction of the *total wage concept* in June 1967. (For a summary of major margin cases see the 1968, 1969 and 1970 *Year Books*.)

Metal Trades Work Value Award

Decision of December 1967

Following the December 1966 margins determination, the Commonwealth Conciliation and Arbitration Commission announced its intention to undertake a work value enquiry concerning classifications under the Metal Trades Award in order to place a value on the type of work performed by workers in each individual classification. On 11 December 1967 the decision was handed down and tradesmen in certain classifications received substantial increases. However, unlike cases argued on economic grounds this determination *did not* create a precedent capable of general application to tradesmen in other fields; to obtain increases they had to present their own work value cases.

For a more detailed account of the 1967 decision and subsequent events associated with the December determination see the 1970, 1971 and 1972 *Year Books*.

State Wages Boards Margin Reviews

Decision of Tasmanian Wages Board, March 1968

On 5 February 1968, the Electrical Engineers' Wages Board met to hear claims based on the Metal Trades work value decision given in the Federal jurisdiction on 11 December 1967. This Board's deliberations were adjourned and a wider conference was convened so the matter under review could be treated as a test case for all Metal Trades classifications in the State jurisdiction.

The Chairman's recommendation, given on 14 March 1968, was to vary the determination as follows: (i) increase by \$5.80 the margin paid to highly skilled tradesmen covered by the award; (ii) increase less skilled classifications by smaller amounts, e.g. \$0.25 for an electrical fitter's assistant; and (iii) increase apprentices' rates.

Review of Margins 1970

In the 1970 determination resulting from a test case covering all tradesmen it was accepted that: (i) the value of margins paid to tradesmen compared to increases granted to unskilled and semi-skilled occupations should be maintained; and (ii) where high qualifications were required for entry to a trade, then the holder should be adequately rewarded.

The determination of 10 November increased existing margins for 'base tradesmen' and higher classifications under the jurisdiction of the Electrical Engineers' Wage Board by 27 per cent. No increase was granted to unskilled and semi-skilled trades. This determination gave tradesmen on the lowest margin (\$20.30) an increase of \$5.50. The increases became effective from the first pay-period commencing on or after 14 October 1970.

The November Test Case decision was then used as a basis for varying tradesmen's margins in determinations of other Wages Boards including Plumbers', Automotive Industries, Marine Boards, Bakers', etc.

Review of Margins 1972

Informal Test Case: During a review of the Electrical Engineers' Wages Board Determination in April a proposition for increased margins for tradesmen was heard in isolation from the rest of the business of that Board. This was the result of an earlier assurance that the claims for increased margins for tradesmen would be the subject of a review in April 1972 following increasing discontent by tradesmen of alleged continuing erosion of the value of rewards for their services. The hearing was considered by all parties to be in the nature of an informal test case.

Argument: The tradesmen claimed that substantial wage increases granted to semi-skilled classifications of employees, within other categories of the labour force, had a detrimental effect on their own wages. This discontent was heightened by the rejection of several claims for increased margins throughout 1971.

The Chairman of the Board held that the actual position of the Tradesmen was little changed from that prior to the November 1970 decision apart from confusion generated as the result of another principal Federal award being made, which had been subject to a detailed work review. The Chairman stated that he was not impressed with the view that tradesmen's margins should only be increased as a result of a work review and that in his opinion all evidence which resulted in the decision of 1970 was still relevant and therefore formulated his decision on this basis.

Determination: In his determination the Chairman considered that an increase on the existing margin of a base 'tradesman' was necessary in order that the tradesman should be in the same position, within the wage structure, as he had been immediately following the 1970 tradesmen's margins adjustment.

The determination of 5 May increased the margins for 'base tradesmen' under the jurisdiction of the Electrical Engineers' Wages Board by 22½%. In the case of an Electrical Mechanic this meant an increase of \$6.20 per week with proportionate increases for more highly skilled tradesmen. No increase was granted to unskilled and semi-skilled trades. The increases became effective from the first pay period commencing on or after 1 May 1972.

Total Wage Concept

For a full account of events leading to the adoption of a 'total wage' concept see the 1970 *Year Book*. The decision, abolishing the basic wage in awards of the Commonwealth Conciliation and Arbitration Commission, was handed down in June 1967 when a \$1.00 increase was awarded. This increase was to be added to the *total wage*. Only results of recent national wage cases are given in this *Year Book*.

1969 The Commission's award provided for a three per cent increase in total award rates.

1970 The Commission granted a flat six per cent increase in the total wage and increased the minimum wage by \$4.00 per week.

National Wage Case 1971-1972

The National Wage case commenced in November 1971 when the full bench of the Commonwealth Conciliation and Arbitration Commission was convened to hear union claims for increases in the total and minimum wages. Representatives of the trade union movement requested that the claims be heard in two parts: (i) the case for an increase in the total wage immediately; (ii) the minimum wage case be deferred and heard in February 1972. This request was opposed by employer groups and the Commonwealth. The Commission agreed that the union could put their case in two parts; however, employers would not be called on to reply until the unions had completed their submissions. The unions then requested an adjournment and further hearings commenced on 27 February 1972. The Commission handed down its decision in May 1972.

The Claims: Four separate claims were lodged with the Commonwealth Conciliation and Arbitration Commission; one by the 'blue collar' unions and three by 'white collar' groups. The Sheet Metal Working, Agricultural Implement and Stovemaking Industrial Union led for the blue collar unions. Their application was for: (i) an increase of \$12.50 per week in the total wage for all adults; (ii) establishment of a minimum wage for adult males of \$70.00 per week; and (iii) quarterly adjustments of the minimum wage for adult males in accordance with movements in the Consumer Price Index. The three white collar groups (two representing Commonwealth Public Service employees) requested varying percentage increases in the total wage.

Employees' Case: The trade unions based their total wage claim on price and productivity increases that had occurred since 1953 and argued that the increases sought: (i) would not be detrimental to the national economy; (ii) were necessary to maintain the real purchasing power of wages and salaries. The unions stated that the present minimum wage was too low to give relief to low income earners. To achieve this objective a substantial increase in the minimum wage was required. The white collar groups supported the trade union submissions in general but favoured a percentage increase as it would preserve the relative advantages of higher skilled employees.

Employers' Case: The Commonwealth submitted that: (i) a substantial flow-on from the July Metal Interim Industries Award 1971 had occurred; and (ii) there had been substantial increases in wages and salaries in white collar areas since the 1970 National Wage Case. Consequently a large increase would: (i) be harmful to the economy and add further pressure to prices; (ii) worsen the plight of the rural industries. Private employers opposed any increase in wage rates and in their submission argued that the price movements that should be considered were those occurring since the last National Wage Case decision and not since 1953. They added that price increases had resulted from increases in award wages outstripping increases in productivity. Opposition was also expressed to any attempt to link the minimum wage to quarterly increases in the Consumer Price Index.

Commission's Views: In the preamble to the award the Commission re-affirmed the intention that increases in wages, under Federal Awards, should principally emanate from National Wage Cases: 'If, however, increases in wages, especially of a general nature, do occur we consider that the Commission may not be able to avoid taking them into account in deciding a national wage case.' The Commission, in its decision, stated that: (i) there had been a substantial flow-on from the Metal Industries Interim Award of July 1971; (ii) recognition of increases in the white-collar area since the 1970 National Wage Case had also to be made. The Commission also posed questions concerning the future of the national wage case and whether increases from future cases might only be applied to those industries where no increases in award rates had occurred since the preceding national wage case. The Commission considered that some increase in the total wage would not be harmful to the economy; however, flow-ons from decisions since the 1970 National Wage Case '... to some extent pre-empt the ability of this bench to grant further increases. In our view they are a relevant part of the general economic picture'. The Commission also considered that a percentage increase would further disadvantage employees whose awards had not been varied since the 1970 National Wage Case.

The Award: The total wage for adult males and females was increased by \$2.00 per week and the minimum wage for adult males was increased by \$4.70 per week, these increases became effective from the beginning of the first pay-period commencing on or after 19 May 1972. Quarterly adjustment of the minimum wage was rejected.

Total Wage Concept in Tasmania

The Commonwealth award of June 1967 was followed by a test case argued before the Chairman of the State Wages Boards. The employers asked for adoption of the total wage concept. The unions opposed this and argued for a \$7.30 increase in the basic wage; if a lesser amount was determined, then a *minimum total wage* of \$40.70 should nevertheless be fixed.

The decision in the test case (Electrical Trades) was that both male and female rates should be increased by \$1; the increase, however, should be regarded as *raising the basic wage* which would be retained for the present in State determinations. The State Wages Boards have retained the basic wage and margins concepts in awards handed down following subsequent national wage case determinations of the Commonwealth Conciliation and Arbitration Commission.

State Wages Boards Decision, 1972: A meeting of all Wages Boards was convened to determine variations to the State basic wage and minimum wage following the June 1972 National Wage Case. Representatives from the Tasmanian Employers' Federation and Tasmanian Trades and Labour Council appeared at the hearing, which was held under the 'common rule' provisions of the *Wages Boards Act*. The determination increased: (i) the basic wage for adult males and females by \$2.00 to \$41.00 (males) and \$31.90 (females); (ii) the minimum wage for adult males by \$4.70 to \$51.70.

Equal Pay Legislation

Introduction

The concept of 'equal pay' achieved partial recognition in some Australian States because there exist occupations in which men and women perform work which is identical (e.g. teaching, medical practice, etc.); such identity has given rise to industrial claims based on the principle of 'equal pay for equal work'. The logic of such occupational situations was ignored in the past and it was only in 1950 that the Commonwealth Court of Conciliation and Arbitration fixed the female basic wage at 75 per cent of the male rate (it had previously been as low as 54 or 56 per cent). With regard to margins, there was no universal rule but, in the Commonwealth Public Service, for example, certain female employees received the same margin as males, but only the female basic wage.

N.S.W. Legislation (1959)

The first acceptance of the principle of equal pay for equal work came in N.S.W. in 1959 when the Industrial Arbitration Act was amended to provide equal pay for males and females under certain circumstances. If the Industrial Commission or a Conciliation Committee was satisfied that male and female employees under an award were performing identical work, it was to prescribe the same margin for males and females. The basic wage was to be adjusted to equal the male rate in annual five per cent increments spread over the period 1959-1963.

Tasmanian Legislation (1966)

In Tasmania the approach to the problem was different in that the Parliament in 1966 passed legislation affecting only employees in the public sector. The *Public Service (Equal Pay) Act 1966* applied to those employed by the State Government or employed by State authorities, e.g. the teaching service, the police force, the railway service, etc. The Act required that wage-fixing authorities had to be satisfied in any application, that certain female employees were performing 'work of the same or a like nature and of equal value'. If this was established, then the authority was required to fix the same margins for all employees, irrespective of sex. This still did not give equal pay due to the lower female basic wage. Accordingly the Act provided for annual five per cent increments in the female basic wage which would effect equality with the male rate by 1972.

The wage-fixing authorities specified in the Act include Wages Boards, the Public Service Tribunal, the Public Service Commissioner and any other person or body required to act as such by law. In actual practice, the majority of claims for an award variation were made to the Public Service Tribunal, the principal wage-fixing authority for employees in the public sector.

National Wage Cases

In awarding the \$1 increase to both males and females in 1967, the Commonwealth Conciliation and Arbitration Commission departed from the principle of maintaining a 75 per cent ratio between the male and female basic wage. This was done deliberately and the Commission's pronouncement in June 1967 referred to the eventual possibility of equal pay for equal work. In all subsequent national wage cases the Commission has granted uniform quantum or percentage increases to males and females.

Teachers' Case, 1968

In June 1968 the Public Service Tribunal ruled that Tasmanian women teachers employed by the State were performing work of the same or a like nature and of equal value. Generally women teachers were already receiving the same margins as men so the effect of the Tribunal's decision was to increase the base rate component of their salary to 80 per cent of the male base rate, with effect from 23 May 1968. (The female base rate, \$25.05, was 75 per cent of the male base rate, \$33.40.) In accordance with the Act, the base rate for females was steadily advanced until it equalled the male rate in 1972.

State Employees Receiving Equal Pay

Since the June 1968 Teachers' determination, equal pay has been extended to all areas where the Public Service Tribunal has been satisfied that the work performed by male and female employees is of the same or similar nature and of equal value.

National Equal Pay Case 1969

Two benches of the Conciliation and Arbitration Commission handed down a joint decision on the National Equal Pay Case on 19 June 1969. The decision was important as, for the first time, the Commission accepted in principle the concept of 'equal pay for equal work'. However, equal pay was not to be granted automatically; equality of work had to be proved before an increase was granted to female workers.

Conclusions: Acceptance of the concept of 'equal pay for equal work', implied the elimination of discrimination based on sex alone. However, before equal pay was granted equality of work had to be established.

Principles to be Applied: The Commission stated that it would be necessary for a separate examination to be made of each determination and award in respect of the awarding of equal pay, and suggested that certain clearly defined principles should be applied in deciding these applications.

Where the Arbitrator or the Commissioner was satisfied that equal pay should be awarded, the Commission considered that the implementation of such a decision should be on a progressive basis over four years as follows (provided that no female rates should be reduced by operation of this formula):

Equal Pay Case Decision, 19 June 1969

Date of Operation	Amount of Female Rate
Beginning of First Pay-period to Commence On or After—	
1 October 1969	85%
1 January 1970	90%
1 January 1971	95%
1 January 1972	100%
	} of the male rate at that date

Equal Pay: Metal Trades Award

In February 1970 the Commonwealth Conciliation and Arbitration Commission granted equal pay to adult female process workers employed under the Commonwealth Metal Trades Award. The determination was that rates for adult females were set at: (i) from first pay period commencing on or after 23 February 1970, 90 per cent of male rates; (ii) from 1 January 1971, 95 per cent of male rates; (iii) from 1 January 1972, the same as male rates. On 25 March 1970 the equal pay provisions were extended to include junior females.

National Wage and Equal Pay Case 1972

On 15 December 1972 the Commonwealth Conciliation and Arbitration Commission enunciated a new principle in its National Wage and Equal Pay Case decision, of 'equal pay for work of equal value' to be used when determining female wage rates. The adoption of the new principle, to be applied to both adult and junior female wage awards, requires that female rates be determined by work value comparisons without regard to the sex of the employees concerned. The principle may be applied by either agreement or arbitration.

Weekly Wage Rates in Tasmania*Definitions*

In this section, 'weekly wage rates' is used as a short title for '*weighted average minimum weekly wage rates*'. The rates are those applicable to adult males and adult females, and are those fixed in *awards*.

The minimum wage is the lowest rate payable for a particular occupation. This minimum rate may be expressed as: (i) a total wage (e.g. in awards of the Commonwealth Conciliation and Arbitration Commission; (ii) a basic wage plus secondary wage payments, i.e. additional amounts for skills, loadings, etc. (e.g. in awards of State wage-fixing authorities except Victoria); or (iii) in agreements registered with Commonwealth or State wage-fixing authorities. The introduction of varying Commonwealth and State practices relating to 'total' and 'basic' wages from time to time has not affected the continuity of the statistical series.

Weighting: To arrive at a weighted average rate for a particular field (e.g. rate for occupations in Tasmania covered by Commonwealth awards) certain data are required. The basic initial information is the award rate applying to each occupation and its relative significance (broadly, the numbers in each occupation). The calculation of average minimum rates is based on the occupational structure existing in 1954.

The individual minimum wage rates, combined to give the averages shown in the tables, are those for representative occupations within each industry.

Since the aim is to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc. which relate solely or mainly to salary-earners are excluded.

Weighted averages of the components of the total minimum weekly wage rate, i.e. basic wage, margin and loading, are calculated separately for adult male employees covered by Commonwealth awards, etc. and for those covered by State awards, etc.

'Commonwealth Awards, etc.': These include awards of, or agreements registered with, the Commonwealth Conciliation and Arbitration Commission, and determinations of the Commonwealth Public Service Arbitrator.

'State Awards, etc.': These include awards or determinations of, or agreements registered with, State industrial tribunals, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer. (In Tasmania the principal tribunals are the State Wages Boards.)

'Basic Wage Rates': These are weighted averages of the weekly rates prescribed in awards, etc. for the occupations included in the calculation. For industries other than mining, metropolitan basic wage rates have generally been used. However, there are a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. In all such cases, the basic wage rate actually paid is used in the tables. As a result, the weighted average basic wage shown in this section differs from the Hobart basic wage appearing elsewhere.

'Margins': These are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for special features such as skill, experience, arduousness or other like factors.

'Loadings': These include industry loadings and other general loadings prescribed in awards, etc. for the occupations included in the calculation. Loadings that are not applicable to all workers in a specified award occupation (for example, those payable because of length of service; working in wet, dirty or confined spaces, etc.) are not included in the calculation.

Male and Female Rates

The following table summarises weekly wage rates for adult males and adult females in Tasmania from 1956 onwards. The averages include Commonwealth and State awards, etc. and are for all industry groups combined.

Weighted Average Minimum Weekly Wage Rates (a)
Adult Males and Adult Females: All Groups
(\$)

End of December—	Adult Rate		End of December—	Adult Rate	
	Male	Female		Male	Female
1956	31.39	21.52	1964.. .. .	39.69	27.04
1957	31.85	21.90	1965.. .. .	40.73	27.94
1958	32.36	22.12	1966.. .. .	43.27	29.80
1959	34.71	23.42	1967.. .. .	45.31	31.62
1960	35.15	23.88	1968.. .. .	48.98	33.46
1961	36.27	24.82	1969.. .. .	52.00	36.94
1962	36.48	24.83	1970.. .. .	r 54.46	r 38.17
1963	37.29	25.21	1971.. .. .	60.36	44.00

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

Limitation: The wage rates shown in the tables in this section should not be regarded as actual current averages, but rather as indexes expressed in money terms, indicative of trends. The wage rates do not measure the relative level of minimum wages as between States.

Minimum weekly wage rates for adult males are not comparable with 'average weekly earnings per employed male unit' appearing in a later section of this Chapter; the latter includes not only the earnings of adult wage-earners but also those of salaried employees, junior wage-earners and part-time and casual employees; included also are over-award payments and overtime earnings.

Rates in Industry Groups

In the next table, details are shown of Tasmanian weighted average minimum weekly wage rates payable for a full week's work (but excluding overtime) for adult males and females as prescribed in awards, determinations, etc. of the various industry groups; also the same information converted to index numbers with the Australian weighted average minimum weekly wage rate for 1954 equated with 100. It should be noted that the figures shown in this table are statistical averages and should not be confused with the *minimum wage* prescribed by the Commonwealth Conciliation and Arbitration Commission.

**Weighted Average Minimum Weekly Wage Rates and Index Numbers
Adult Males and Adult Females: Industry Groups, 31 December 1971**

Industry Group	Adult Males		Adult Females	
	Rates of Wage (\$)	Index Numbers (a)	Rates of Wage (\$)	Index Numbers (a)
Mining and Quarrying	65.44	231.7	..	..
Manufacturing—				
Engineering, Metals, Vehicles, etc.	60.53	214.3	47.86	240.4
Textiles, Clothing and Footwear	54.46	192.8	38.87	195.3
Food, Drink and Tobacco	57.42	203.3	40.35	202.7
Sawmilling, Furniture, etc.	55.51	196.6	34.46	173.1
Paper, Printing, etc.	60.35	213.7	42.88	215.4
Other Manufacturing	54.44	192.8	..	..
All Manufacturing Groups	58.09	205.7	40.52	203.5
Building and Construction	60.70	214.9	..	..
Railway Services	59.76	211.6	51.26	257.5
Road and Air Transport	58.87	208.5	..	..
Shipping and Stevedoring	64.28	227.6	..	..
Communication	75.47	267.2	56.29	282.7
Wholesale and Retail Trade	60.32	213.6	46.07	231.4
Public Authority (n.e.i.) and Community and Business Services	64.29	227.6	47.80	240.1
Amusement, Hotels, Personal Service, etc.	55.05	194.9	42.96	215.8
All Industry Groups	60.36	213.7	44.00	221.0

(a) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

Index Numbers

In the previous table the minimum average weekly wage rates have also been expressed as index numbers. It should be emphasised that the rates themselves are not actual current averages but are rather indexes expressed in money terms; as such they are indicative of trends rather than of levels.

The following table shows, in summary form, the index numbers for adult male and adult female weighted average minimum weekly wage rates in Tasmania from 1965:

Weighted Average Minimum Weekly Wage Rates: Index Numbers, All Groups, Adult Males and Adult Females

End of December—	Index Numbers (a)		End of—	Index Numbers (a)	
	Male	Female		Male	Female
1965	144.2	140.4	December 1970 ..	192.8	191.7
1966	153.1	149.7	March 1971 ..	207.1	206.3
1967	160.4	158.8	June 1971 ..	207.9	209.2
1968	173.4	168.1	September 1971 ..	210.3	211.7
1969	184.1	185.6	December 1971 ..	213.7	221.0

(a) Base of index numbers: weighted average weekly wage rate, Australia, 1954 = 100.0.

Components of Weekly Wage Rates (Male)

The next table shows the adult male weighted average minimum weekly rate, according to its Commonwealth and State award elements, for Tasmania. The State award element is shown in its component parts (basic wage, margin and loading). However, adoption of the total wage concept in June 1967 precludes a similar dissection of Commonwealth awards (Commonwealth awards prior to June 1967 are also shown in total only).

Weighted Average Minimum Weekly Wage Rates, End of December (a)
Components of Wage Rate, All Groups: Adult Males
(\$)

Particulars	1966	1967	1968	1969	1970	1971
Commonwealth Awards..	42.71	44.58	48.46	51.48	<i>r</i> 53.57	59.81
State Awards, etc.—						
Basic Wage	33.39	34.40	35.75	36.80	36.80	39.00
Margin	9.13	10.15	12.05	13.93	<i>r</i> 16.58	19.47
Loading	1.61	1.88	1.97	2.07	2.46	2.75
Total	44.14	46.43	49.77	52.80	<i>r</i> 55.84	61.22
All Awards	43.27	45.31	48.98	52.00	<i>r</i> 54.46	60.36

(a) For a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

Australian Rates

In the next table, rates and index numbers are shown for each Australian State:

Australia: Weighted Average Minimum Weekly Wage Rates (a): All Groups, Adult Males

End of December—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
RATES OF WAGES (\$)							
1966	43.27	42.78	43.56	41.75	43.37	43.27	43.04
1967	45.35	44.59	45.55	43.79	45.08	45.31	45.00
1968	49.46	48.86	49.01	48.23	47.72	48.98	48.98
1969	52.38	51.74	51.91	50.76	50.69	52.00	51.86
1970 <i>r</i>	54.22	53.48	55.04	52.11	55.94	54.46	54.06
1971	61.29	60.98	62.70	58.90	61.71	60.36	61.18
INDEX NUMBERS (b)							
1966	153.2	151.5	154.2	147.8	153.6	153.1	152.4
1967	160.6	157.9	161.3	155.1	159.6	160.4	159.3
1968	175.1	173.0	173.5	170.8	169.0	173.4	173.4
1969	185.5	183.2	183.8	<i>r</i> 179.7	179.5	184.1	183.6
1970 <i>r</i>	192.0	189.4	194.9	184.5	198.1	192.8	191.4
1971	217.0	215.9	222.0	208.6	218.5	213.7	216.6

(a) For a full week's work (excluding overtime), as prescribed in awards, determinations, etc.

(b) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

Hourly Wage Rates in Tasmania

General

Hourly wage rates is the short title for 'weighted average minimum hourly rates payable'. The concept is completely analogous to that embodied in weighted average minimum weekly wage rates and the calculation is similarly based on rates prescribed in awards or determinations of Commonwealth and State industrial authorities or in agreements registered with them.

Definitions

Hours of Work: In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages of hourly rates.

Rural industry is excluded from the calculation of weighted average minimum weekly wage rates. Rural industry, and in addition the shipping and stevedoring industry, are excluded from the calculation of weighted average minimum hourly wage rates; the shipping and stevedoring group is excluded since definite particulars for the computation of hourly wage rates are not available.

The 40-hour week has operated in Australia generally from 1 January 1948 (N.S.W., from 1 July 1947). Nevertheless the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industry groups except rural, and shipping and stevedoring, at 30 June 1971, were: N.S.W., 39.86; Victoria, 39.97; Queensland, 39.94; S.A., 39.96; W.A., 39.85; Tasmania, 39.95; Australia, 39.91. Corresponding figures for adult female workers at 30 June 1971, were: N.S.W., 39.53; Victoria, 39.81; Queensland, 39.70; S.A., 39.77; W.A., 39.78; Tasmania, 39.63; Australia, 39.67.

Weekly Wage Rate Definitions: Apart from exclusion of the shipping and stevedoring industry, the definitions in the section headed 'weekly wage rates' apply with equal force to the calculation of hourly wage rates.

Summary of Details

The following table shows, for Tasmania, weighted average minimum hourly wage rates for adult male and adult female workers in all industries (except rural, and shipping and stevedoring) since 1939:

**Weighted Average Minimum Hourly Wage Rates, All Groups
Adult Males and Adult Females**

End of—	Rates of Wage		Index Numbers (a)	
	Males (b)	Females (c)	Males (b)	Females (c)
	\$	\$		
December—1939	0.2095	n.a.	29.6	n.a.
1945	0.2642	n.a.	37.3	n.a.
1950	0.4952	n.a.	70.0	n.a.
1955	0.7371	0.5056	104.2	100.8
1960	0.8808	0.6037	124.5	120.3
1963	0.9340	0.6361	132.0	126.8
1964	0.9946	0.6822	140.6	136.0
1965	1.0211	0.7052	144.3	140.6
1966	1.0842	0.7520	153.2	149.9
1967	1.1365	0.7979	160.6	159.0
1968	1.2288	0.8444	173.7	168.3
1969	1.2955	0.9323	183.1	185.8
September—1970	1.3251	0.9508	187.3	189.5
December—1970	1.3543	0.9632	191.4	192.0
March—1971	1.4551	1.0365	205.7	206.6
June—1971	1.4622	1.0509	206.7	209.5
September—1971	1.4806	1.0634	209.3	212.0
December—1971	1.5060	1.1104	212.9	221.3

(a) Base of index numbers: weighted average hourly wage rate, Australia, 1954 = 100.0.

(b) All industry groups except rural and shipping and stevedoring.

(c) All industry groups except rural, mining and quarrying, and building and construction.

Average Weekly Earnings in Tasmania

Source of Data

The figures in the following section are derived from particulars of employment and of wages and salaries recorded on pay-roll tax returns, from other direct collections and from estimates of the unrecorded balance. (In general, businesses with pay-rolls of less than \$1,734 per month are exempt from pay-roll tax and do not need to supply monthly details of employment and of wages and salaries.) Pay of members of the defence forces is not included.

Definitions

'*Employed Male Unit*': This is a special unit devised to overcome the difficulty that particulars of wages and salaries are not available separately for males and females. (The basic data available are the number of males, the number of females and the total pay-roll only.) The number of females is converted to a *lesser equivalent number* of males by taking into account the approximate ratio of female to male earnings; a divisor for deriving average 'male' earnings is then obtained by adding the actual number of males to the calculated number of 'male equivalents'. The divisor so obtained is called 'employed male units'.

From 1 September 1966, the series has been revised using separate ratios of male to female earnings for each State. (The ratio used for Tasmania is 49 per cent; for calculating Australian figures a weighted average of the six States of approximately 52.5 is used.)

Components of Pay-roll: Pay-roll includes, in addition to wages at award rates, the earnings of salaried employees, overtime earnings, over-award and bonus payments, and payments made in advance or retrospectively (e.g. advances of annual leave pay). Included also are the wages and salaries, not only of adults, but also of juniors; the earnings may relate to full-time, part-time or casual workers.

Invalid Comparison: Average earnings per employed male unit cannot be compared with male weighted average minimum weekly wage rates shown in the previous section. Weighted average minimum weekly wage rates relate to award rates for adult male wage earners in non-rural industry for a full week's work, at the end of each month or year; the average weekly earnings per employed male unit are derived from the pay-roll concept shown in the previous paragraph, and obviously cover a wider field of earnings and of wage and salary earners.

Seasonal Influence: Quarterly figures are affected by seasonal influences. Comparisons as to trends are generally best made by relating complete years or corresponding periods of incomplete years.

Annual and Quarterly Details

The following table shows, for Tasmania, average weekly earnings per employed male unit; the figures are arranged both as quarterly and annual averages.

Average Weekly Earnings Per Employed Male Unit (a)
(\$)

Year	Average for Quarter Ending—				Average for Year
	September	December	March	June	
1967-68	60.20	64.30	60.10	63.10	61.90
1968-69	62.80	68.40	63.50	67.50	65.60
1969-70	68.80	73.90	66.30	74.30	70.80
1970-71	74.40	80.50	74.90	85.00	78.70
1971-72	82.30	90.30	84.20	91.80	87.20

(a) For definitions, see earlier section headed 'Definitions'.

Australian Details

The next table shows average weekly earnings per employed male unit for each Australian State. *Precise* comparisons between average earnings per employed male units for different States depends upon a common ratio of male to female earnings for all States; however, the actual ratio used to calculate the earnings varies from State to State. Therefore precise comparisons between States or between the State figures and the Australian figures cannot be made.

Australia: Average Weekly Earnings Per Employed Male Unit (a)
(£)

Period	N.S.W.(b)	Vic.	Qld	S.A. (c)	W.A.	Tas.	Australia
1966-67	63.50	63.90	57.10	57.60	59.20	58.40	61.70
1967-68	67.00	67.60	60.20	61.10	63.90	61.90	65.30
1968-69	72.70	72.10	64.30	65.20	68.70	65.60	70.20
1969-70	78.80	78.10	69.20	70.90	75.50	70.80	76.10
1970-71	87.90	86.20	77.80	78.40	84.60	78.70	84.70
1971-72	96.70	93.80	87.00	86.80	93.60	87.20	93.20
1969—June Quarter ..	75.20	74.60	67.30	66.60	71.20	67.50	72.60
December Quarter ..	81.60	80.80	71.50	72.90	78.00	73.90	78.70
1970—June Quarter ..	82.30	81.10	71.90	73.50	78.00	74.30	79.10
December Quarter ..	89.70	87.50	79.10	78.70	85.70	80.50	86.10
1971—June Quarter ..	r 93.20	91.50	r 82.70	82.20	r 89.50	r 85.00	r 89.80
December Quarter ..	100.10	96.70	89.30	88.70	95.70	90.30	96.00
1972—June Quarter ..	101.00	97.80	91.60	90.00	95.40	91.80	97.10

(a) For definitions, see section headed 'Definitions'.

(b) Includes the Australian Capital Territory.

(c) Includes the Northern Territory.

Survey of Weekly Earnings, May 1971

General

The survey, in respect of adult male employees for the pay-period which included 12 May 1971, was conducted by means of stratified random samples of: (i) private employers subject to pay-roll tax; (ii) public hospitals; (iii) local government authorities; and in addition a complete coverage of Commonwealth and State government departments, government authorities and semi-government bodies.

The object of the survey was to obtain estimates of the number and proportions of full-time adult male employees (paid for a full week) in various total weekly earnings groups, average weekly total earnings for these employees, and a dissection of average weekly total earnings into average weekly overtime earnings and average weekly ordinary time earnings. The average weekly earnings for private employees in this survey are not directly comparable with the average earnings for full-time adult males obtained from the October surveys of weekly earnings and hours because this survey was confined to full-time adult male employees paid for a full working week.

For Australia as a whole the survey was based on returns from a sample of 4,995 private employers plus returns from public hospitals and government employers. The results are representative of 2,212,600 full-time adult male employees made up of 1,500,600 full-time adult males in private employment and 712,000 in government employment.

Definitions

Total Gross Weekly Earnings: Gross earnings of adult male employees before taxation and other deductions have been made; includes overtime earnings, ordinary time earnings, shift allowances, penalty rates, commission and similar payments; and that part of paid annual leave, paid sick leave, long service leave and paid holidays taken during the specified pay-period. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly. Retrospective payments are excluded.

Full-time Adult Male Employees: Those adult male employees whose normal hours of work were 30 or more a week and who were paid for their full normal hours of work.

Private Employees: Employees of private employers subject to pay-roll tax and employees of all public hospitals.

Government Employees: Civilian employees of Commonwealth and State government departments, government authorities and semi-government bodies, and of local government authorities.

Managerial, Executive, Professional and Higher Supervisory Staff: In the case of private employers the allocation of employees between these categories depended on the judgment of the individual employers completing the returns. In the case of government employers 'managerial, etc., staff' were generally defined as: (i) those employees who did not receive payment for overtime; and (ii) those employees who, although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments).

Results of Survey

The following table classifies full-time adult male employees by total weekly earnings groups, for Tasmania, in May 1971:

Full-time Adult Male Employees, May 1971 (a)

Total Weekly Earnings: All Industry Groups (b) (Private and Government Employees)

Total Weekly Earnings	Full-time Adult Male Employees	Proportion of Total Number of Full-time Adult Male Employees	
		Each Group	Cumulative
		per cent	per cent
Up to 43.99	'000		
44.00- 44.99	}	0.1	0.1
45.00- 45.99			
46.00- 46.99			
47.00- 47.99			
48.00- 48.99			
49.00- 49.99	1.1	1.7	1.8
50.00- 51.99	1.0	1.4	3.2
52.00- 53.99	1.4	2.1	5.3
54.00- 55.99	1.7	2.6	7.9
56.00- 57.99	1.7	2.6	10.5
58.00- 59.99	1.9	2.9	13.4
60.00- 64.99	5.4	8.1	21.5
65.00- 69.99	6.0	9.1	30.6
70.00- 74.99	5.9	9.0	39.6
75.00- 79.99 (c)	5.9	8.9	48.5
80.00- 99.99	15.8	23.9	72.3
100.00-119.99	7.9	12.0	84.4
120 and Over	10.3	15.6	100.0
Total	66.1	100.0	..

(a) Pay-period which included 12 May 1971.

(b) Excludes rural industry and private domestic service.

(c) Includes managerial, etc., staff earning 'up to \$79.99'.

The next table shows, for Tasmania, average weekly earnings for full-time adult male employees (government and private):

Average Weekly Earnings, Full-time Adult Male Employees: Tasmania, May 1971 (a)
(\\$)

Particulars	Private Employees	Government Employees	Total (Private and Government)
Managerial, etc., Staff (b)	119.10	161.80	131.30
Other Full-time Employees—			
Overtime (c)	10.00	5.30	8.30
Ordinary Time	73.50	81.10	76.20
Total	83.50	86.40	84.50
Total Managerial, etc. and Other	88.30	93.90	90.30

(a) Pay-period which included 12 May 1971.

(b) See 'Definitions'.

(c) Averages for all employees represented in the survey.

Surveys of Weekly Earnings and Hours

General

Sample surveys in respect of most employers *in the private sector* subject to pay-roll tax have been conducted annually during recent years by the Bureau as at the last pay-period in October. The results of the surveys are based on returns from stratified random samples of private employers subject to pay-roll tax; for Australia as a whole, the 1971 survey was based on the returns of approximately 5,100 employers whose employees numbered 1,788,000 males and 829,000 females.

Definitions

Weekly Earnings: Gross earnings before taxation and other deductions have been made; includes overtime earnings, ordinary time earnings, shift allowances, penalty rates, commission and similar payments; and that part of paid annual leave, paid sick leave, long service leave and paid holidays taken during the specified pay-period. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly. Retro-spective payments are excluded.

Juniors: Those under 21 years of age not paid adult rates (but 'adults' may include those under 21 years receiving adult rates).

Full-time Employees: Employees who ordinarily work 30 hours or more a week and who received pay for the last pay-period in October.

Results of Surveys

The next table shows, for Tasmania: (i) average weekly earnings; (ii) average weekly hours paid for; and (iii) average hourly earnings.

Average Earnings and Hours, Private Employment (a): All Industry Groups (b)

Particulars	October (c)				
	1967	1968	1969	1970	1971
Average Weekly Earnings—					
Adult Males	\$ 62.20	\$ 65.50	\$ 69.60	\$ 74.90	\$ 83.60
Junior Males	30.90	32.40	34.50	37.90	41.80
Adult Females	35.70	37.90	40.00	43.60	50.40
Junior Females	23.80	24.50	26.60	28.70	33.20

Average Earnings and Hours, Private Employment (a): All Industry Groups (b)—continued

Particulars	October (c)				
	1967	1968	1969	1970	1971
Average Weekly Hours Paid for—	hrs	hrs	hrs	hrs	hrs
Adult Males	42.0	42.0	42.2	42.0	41.7
Junior Males	40.4	40.7	40.2	40.6	40.4
Adult Females	38.8	38.9	38.9	39.1	38.9
Junior Females	38.9	39.2	39.0	39.0	38.8
Average Hourly Earnings—	\$	\$	\$	\$	\$
Adult Males	1.48	1.56	1.65	1.78	2.00
Junior Males	0.77	0.80	0.86	0.93	1.03
Adult Females	0.92	0.97	1.03	1.12	1.30
Junior Females	0.61	0.62	0.68	0.74	0.85

(a) Private employees only. Excludes managerial, executive, professional and higher supervisory staff. Full-time employees only included.

(b) Excludes rural industry and private domestic services.

(c) Last pay-period in October.

The following table analyses total earnings, for Tasmania, to show their overtime component in October 1971:

Average Weekly Overtime and Ordinary Time Earnings (a), Private Employment (b), October 1971 (\$)

Particulars	Average Weekly Overtime Earnings	Average Weekly Ordinary Time Earnings	Average Weekly Total Earnings
Adult Males—			
Manufacturing—			
Founding, Engineering, Vehicles, etc.	10.00	80.70	90.70
Other	7.30	70.50	77.80
Total	8.10	73.80	81.90
Non-Manufacturing	7.40	78.10	85.40
All Industry Groups	7.70	75.90	83.60
Junior Males, All Industry Groups	2.20	39.60	41.80
Females, All Industry Groups—			
Adult	1.60	48.80	50.40
Junior	0.60	32.50	33.20

(a) Averages for all employees represented in the survey.

(b) Private employees only. Excludes managerial, executive, professional and higher supervisory staff. Full-time employees only included.

Minimum Wage Rates, Selected Occupations, Hobart

The following table shows minimum wage rates for selected occupations as prescribed by Federal and State awards, agreements and various determinations (both registered and un-registered) operative at 31 December in recent years. Unless specified, rates shown in the following table are for a 40-hour week. Increases reflect various margin adjustments.

Selected Minimum Wage Rates, Adult Males and Females: Hobart

(\$)

Industry and Occupation	31 December		
	1969	1970	1971

ADULT MALES			
Primary Production—			
Farming (General), General Hand (a)	43.00	43.00	47.00
Grazing, Shearer (per 100 Flock Sheep) (b) ..	21.00	21.00	21.94
Mining and Quarrying—			
Coal Mining (c), Miner (Machine) (d)	59.10	59.10	68.60
Quarrying, Labourer	48.00	48.00	50.90
Engineering, Metals, Vehicles, etc.—			
Engineering—Fitter or Turner	57.10	57.10	66.50
Toolmaker	62.20	62.20	71.90
Textiles, Clothing and Footwear—			
Clothing Trades (Readymade), Tailor	54.20	54.20	63.40
Footwear, Maker	47.40	47.40	53.20
Textiles—Knitting, Knitter	46.00	46.00	55.40
Woollen, Weaver	44.10	44.10	49.00
Food, Drink and Tobacco—			
Aerated Water and Cordials, General Hand ..	43.40	43.40	47.00
Bacon Curing, Boner	58.90	58.90	68.80
Bread Baking, Doughmaker	66.00	66.00	70.00
Brewing, General Hand	49.08	49.08	52.04
Butter, Cheese and Milk Processing, Butter Maker ..	48.90	48.90	57.60
Confectionery, Confectioner (Group 1)	55.40	55.40	61.70
Jam, Fruit and Vegetable Preserving, General Hand	46.80	46.80	51.00
Meat Industry—Labourer (Beef, Mutton)	48.10	48.10	53.30
Slaughterman (Mutton)	67.80	67.80	71.90
Sawmilling, Furniture, etc.—			
Sawmilling and Timber Yards—Machinist (A Grade)	57.10	57.10	64.70
Sawyer (Circular)	47.00	47.00	54.00
Paper, Printing, etc.—			
Printing (General)—Bookbinder	57.10	57.10	66.50
Machine Compositor	62.20	62.20	71.90
Printing (Newspapers)—Machine Compositor (Day			
Work)	81.00	81.00	85.90
Machine Compositor (Night			
Work) (e)	88.20	88.20	93.10
Other Manufacturing—			
Brickmaking, Drawer	48.15	48.15	51.00
Electricity Generation and Supply, Electrical Fitter ..	62.00	62.00	65.40
Building and Construction—			
Building (f)—Bricklayer, Roof Tiler	76.44	76.44	80.60
Builder's Labourer, Skilled	62.52	62.52	65.84
Builder's Labourer, Unskilled	56.36	56.36	59.38
Carpenter	77.26	77.26	81.43
Electrician (Installation) (g)	66.10	66.10	69.90
Plasterer	76.44	76.44	80.60
Painter	76.32	76.32	80.49
Plumber (g)	68.60	68.60	72.90
Railway Services—			
Traffic—Locomotive Engine Driver	68.75	68.75	78.55
Porter	45.45	45.45	51.45
Road and Air Transport—			
Road Transport, Motor Truck Driver (Over 25 cwt			
to 3 ton)	56.15	56.15	59.50
Tramways and Buses, Bus Driver (One-man Operator)	57.40	57.40	63.00
Shipping and Stevedoring—			
Shipping (Cargo Vessels), Able Seaman (h) (i) ..	54.10	54.10	57.00
Stevedoring, Wharf Labourer (per hour) (j) ..	1.80	1.80	1.91

Selected Minimum Wage Rates, Adult Males and Females: Hobart—continued
(**\$**)

Industry and Occupation	31 December		
	1969	1970	1971

ADULT MALES—continued

Communication—			
Post Office, Postman	58.85	58.85	62.38
Wholesale and Retail Trade—			
Butchers, General Butcher	57.10	57.10	66.40
Petrol Service Stations, Attendant	44.20	44.20	47.00
Retail Stores, Shop Assistant (Grocery)	44.90	44.90	50.10
Wool Stores, Wool Classer	60.70	60.70	64.30
Public Administration, Community and Business Services—			
Hospitals, Orderly	49.15	49.15	53.54
Other Services—Graduate Engineer	81.00	81.00	94.71
Graduate Scientist	74.40	74.40	78.83
Amusement, Hotels, Personal Services, etc.—			
Hairdressing, Hairdresser (Men's)	56.50	56.50	59.90
Hotels (k), Barman	44.90	44.90	55.60
Restaurants (k), Cook (One Cook Only Employed)	46.20	46.20	57.00
Watchmen, Cleaners, etc., Office Cleaner (Day)	46.20	46.20	49.20

ADULT FEMALES

Textiles, Clothing and Footwear—			
Dry Cleaning, Presser	48.80	48.80	60.20
Order Dressmaking, Machinist	38.20	38.20	44.50
Readymade Dressmaking, Table Hand or Coat Machinist	37.20	37.20	44.50
Textiles—Knitting, Machinist	34.30	34.30	38.20
Woollen, Weaver	34.70	34.70	38.60
Food, Drink and Tobacco—			
Confectionery, General Hand	35.70	35.70	39.00
Jam, Fruit and Vegetable Preserving, General Hand	35.00	35.00	37.10
Transport and Communication—			
Post Office, Telephonist (l)	44.28	44.28	52.89
Wholesale and Retail Trade—			
Retail Stores—Shop Assistant (Confectionery)	35.10	35.10	39.90
Shop Assistant (Drapery)	43.70	43.70	49.00
Public Administration and Community and Business Services—			
Commonwealth Public Service, Typist (m)	47.29	47.29	54.52
Hospital Nurses (Qualified), First Year	54.77	54.77	58.10
Amusement, Hotels, Personal Services, etc.—			
Cleaners, Office Cleaner (Day)	37.80	37.80	40.10
Hairdressing, Hairdresser	40.45	40.45	46.25
Hotels (k), Barmaid	44.90	44.90	55.60
Restaurants (k), Waitress	38.60	38.60	41.20
Theatres, Usher, Ticket-taker, etc. (l)	40.00	40.00	42.40

(a) 44-hour week. (b) Rates shown are 'not found rates'. Shearers' hours of work are 40 per week. (c) In addition to the rate shown, an attendance allowance is payable for each full fortnightly pay-period worked. (d) 35-hour week. (e) 38-hour week. (f) Rates shown are weekly equivalents of hourly rates. They include allowances for excess fares, travelling time, sick leave, statutory holidays, following the job, etc. (g) Actual weekly rates. (h) Includes an allowance valued at \$5.47 per week for keep and accommodation. (i) Rates shown are for 40 hours of work; seamen are required to work eight hours per day. (j) Rates shown are for casual wharf labourers on other than special cargo work. (k) Weekly cash payments where board and lodging are not provided. (l) 36-hour week. (m) 36½-hour week.

WAGE-FIXING AUTHORITIES

Tasmanian State Wages Boards

History

The evolution of the Tasmanian Wages Boards system is described in the 1968 *Year Book*. The following sections describe the present wages boards situation.

Constitution

A wages board is set up for the common trade, industry or profession of each employers' group (e.g. Building Trades, including employers of painters, glaziers, signwriters, etc.). On each board, of which there are about 70, the employers and the employees have equal representation; one board (Electrolytic Zinc) has eight representatives for each, while the smallest have only two representatives for each. The *Wages Boards Act* 1920 was amended in 1961 to provide for a full-time government-appointed Chairman.

Members of Boards

Qualification for Board Membership: Following the 1970 amendments a person may be appointed to membership of a State wages board if: (i) he is an employer, manager or employee engaged in the particular trade; (ii) he has had twelve months' experience, gained within five years immediately preceding appointment, of managing a corporate body engaged in the industry and is authorised by the particular body to accept appointment; (iii) he is an officer of an association which includes members engaged in the relevant trade; or (iv) he is an officer of the Tasmanian Trades and Labour Council. The provisions of the 1970 amending Act: (i) permit an officer of an association connected with more than one trade to be appointed to a board; and (ii) recognise service in associations connected with the trade as experience in the trade. Not more than half of the employer or employee representatives on a board are to be specialists i.e. representatives from employers' associations or trade unions. (If the number of representatives is an odd number the next even number is used to determine the maximum number of specialists who may sit on the board.) The Crown, as an employer, is not represented on the wages boards. Any member who either: (i) ceases to be engaged in the trade covered by the wages board; or (ii) ceases to be an officer of an association connected with the trade and is not otherwise qualified for membership, is required to vacate his seat on the wages board.

Nomination and Appointment of Board Members: The 1970 amendments make provision for nomination of board members by: (i) employer and employee organisations; and (ii) individual employers and employees. Special provisions apply to officials of the Tasmanian Trades and Labour Council. If the number of nominees falls short of the positions to be filled, the Minister may select and appoint the necessary additional persons. When the number of nominees exceeds the number of vacant positions, the Minister selects the representatives from the nominees received. The Minister's decision is final. (Previous provisions for elections in the above two cases were repealed.)

Board Meetings and Proceedings

When a quorum is not present the Chairman is required to adjourn proceedings for half an hour and, if at the end of this interval a quorum is not present, the powers of the board can be exercised by a majority of the members (including the Chairman) present.

Role of Chairman

The Chairman's chief power at meetings of boards derives from the fact that he has a casting vote; he wields no arbitral power but is enjoined, when there is equal division between the representative members to do all things ('... whether by adjourning ... by making suggestions, consulting with members ... or otherwise ...') needed to obtain agreement of the board, before deciding the matter at issue on his casting vote. From the meeting's recorded decisions, the Chairman drafts a statement of the amended wage-rates, allowances and conditions; this is known as a determination and upon gazettal becomes law.

The Chairman may also determine any matter placed before him by a majority of the board members. In such cases his determination is regarded as a decision of the board. Further powers were given to the Chairman under the common rule amendments contained in the 1970 Act.

Common Rule Determinations

Section 11 of the *Wages Boards Act* 1970 contains the following important amendment to the principal Act:

'25B—(1) On application being made to the Minister by—

- (a) an organisation of employers; or
 - (b) the body known as the Tasmanian Trades and Labour Council,
- for making of a determination under this section in relation to a matter referred to in the application, the Minister may refer the application to the Chairman for determination.'

The Chairman may only make common rule determinations in respect to the following matters: (i) basic wage; (ii) minimum wage; (iii) standard hours of work; (iv) paid leave of absence; and (v) a matter, determined in an award under a Commonwealth Act, which affects or relates to 10 or more trades for which State wages boards have been appointed. Determinations under this provision apply to all boards affected by the particular matter.

Before making a 'common rule determination' the Chairman is required to: (i) confer with persons engaged in the relevant trades as he thinks necessary; and (ii) in his determination give due consideration to these persons' opinions.

When the common rule determination provisions are not or cannot be applied, the matter may be heard as a test case.

Test Cases

On occasion, issues are raised which do not fall within the scope of a common rule determination but which obviously have wide implications, e.g. general margins claims. The meeting of the particular wages board raising the issue may be adjourned and a wider conference convened at which all major employer and employee groups are represented. The question can then be argued as one affecting a number of boards, or often all boards, but the final outcome is a determination affecting the particular wages board which raised the issue. This determination then sets the pattern for the variation of determinations of other wages boards. An amendment to the Act in 1966 provides for the variation of a wages board determination by written application of all representative members, if the Chairman approves; this obviates the need for many formal meetings and also allows the outcome of test cases to be speedily adopted in the determinations of all boards.

Powers and Functions of the Boards

A board may determine any industrial matter in relation to the trade for which it has been appointed. Included in the matters which it may determine are: wage rates; hours of work; leave (other than long service leave); date from which any determination becomes effective; privileges, rights and duties of employers and employees; the mode, terms and conditions of employment. The boards may not determine matters relating to: (i) opening and closing hours; (ii) bonus payments; (iii) superannuation schemes; and (iv) engagement, dismissal or reinstatement of any particular class of employees.

Wages boards determinations are now binding upon the Crown.

Industrial Disputes

Under the Act, the Minister may call a compulsory conference for the purpose of settling or preventing industrial disputes. Industrial disputes are defined in Section 16 of the 1970 Act as:

- '(a) a matter in respect of which a board is authorised by this Act to make a determination; or
(b) the engagement, dismissal, or reinstatement of any particular employee or particular class of employees'.

Those summoned may include not only the direct participants, but also other persons connected in industrial matters which bear on the dispute or, even more broadly, any persons at all whose attendance may help a settlement. By an amendment of the Act in 1960 the conference Chairman has the power to make a written order directing certain action to be taken if he considers it will prevent or settle the dispute; recipients of such orders are bound to comply, the penalty for ignoring an order being \$200.

The compulsory conference is presided over by a person appointed by the Minister but, in practice, the Chairman of Wages Boards is generally given this conciliation role.

Tasmanian Public Service Tribunal

General

Under the *Public Service Tribunal Act* 1958 the Tasmanian Public Service Tribunal is vested with determining the salaries and specified conditions of service for employees of government and semi-government instrumentalities.

Employees under the Tribunal's jurisdiction include those in the public service, parliamentary staff positions, non-academic staff positions with the College of Advanced Education, the teaching service, the police force, public hospitals, the school dental nursing service, mental health services, and in various statutory authorities and State instrumentalities.

The Tribunal is composed of a full-time Chairman and Deputy-Chairman with eight part-time members, two of whom are government nominees and the others elected representatives of the police force, teaching service and general service. For each hearing the Tribunal consists of the Chairman or Deputy-Chairman, a Government nominee and an appropriate elected member (according to the group affected by the claim being heard).

Awards are current for a statutory period of three years and continue in force until revoked. However, claims to amend awards may be made at any time in the event of changed circumstances. Consent awards may be made at the discretion of the Tribunal.

Industrial Disputes

Statistics of industrial disputes refer only to those involving a stoppage of work of 10 man-days or more. The information is compiled from the following sources: (i) direct from employers and trade unions; (ii) reports from government departments and authorities; (iii) reports from State and Commonwealth industrial authorities; and (iv) information contained in trade journals, newspapers, etc. Particulars of some stoppages are estimated and the following statistics should be regarded as giving only a broad measure of industrial stoppages.

Industrial Disputes (a)

Year	Disputes	Workers Involved	Working Days Lost	Estimated Loss in Wages
	no.	'000	'000	\$'000
1964	8	1.9	1.9	18.0
1965	17	5.1	3.9	41.4
1966	14	2.5	3.1	34.8
1967	29	6.2	7.3	82.3
1968	28	7.8	13.0	149.0
1969	44	8.7	9.9	115.3
1970	66	14.8	32.2	451.1
1971	46	14.7	20.6	(b)317.3

(a) Involving a stoppage of ten man-days or more.

(b) The estimated Tasmanian loss was 0.70 per cent of the Australian total in 1971.

The following table analyses industrial disputes according to the industry group of the labour force involved.

Industrial Disputes By Industry Groups

Period	Mining and Quarrying	Manufacturing						Building and Construction
		Engineering, Metals, Vehicles	Textiles, Clothing, Footwear	Food, Drink, Tobacco	Paper, Printing	Other	Total	

NUMBER OF DISPUTES

1968	5	4	..	..	..	3	7	9
1969	7	2	..	2	1	4	9	13
1970	11	13	1	4	2	3	23	18
1971	14	5	6	2	..	2	15	9
1971—								
March Qtr ..	3	1	..	1	..	..	2	2
June Qtr ..	3	..	1	..	..	..	1	3
Sept. Qtr ..	7	4	3	..	..	..	7	3
Dec. Qtr ..	1	..	2	1	..	2	5	1

WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)

1968	1.0	1.5	..	..	..	2.3	3.8	1.3
1969	1.3	0.2	..	0.1	0.1	0.6	1.0	0.9
1970	3.5	1.5	..	1.2	0.5	1.6	4.9	2.8
1971	2.4	2.8	5.0	0.4	..	..	8.2	2.5
1971—								
March Qtr ..	0.9	0.1	..	..	..	..	0.1	0.6
June Qtr ..	0.5	..	..	..	..	..	..	0.1
Sept. Qtr ..	0.9	2.7	2.9	..	..	..	5.6	0.8
Dec. Qtr ..	..	..	2.1	0.4	..	..	2.5	0.9

WORKING DAYS LOST ('000)

1968	4.2	2.1	..	..	..	3.0	5.2	1.7
1969	1.4	0.4	..	0.3	0.1	0.1	1.0	1.9
1970	11.2	2.1	..	0.3	0.2	3.0	5.6	9.0
1971	5.0	4.3	5.2	0.4	..	0.2	10.0	4.2
1971—								
March Qtr ..	3.0	0.4	..	..	..	..	0.4	1.0
June Qtr ..	0.7	1.4	0.1	..	..	..	1.5	0.4
Sept. Qtr ..	1.1	2.5	3.0	..	..	..	5.5	2.6
Dec. Qtr ..	0.2	..	2.1	0.4	..	0.2	2.6	0.3

ESTIMATED LOSS IN WAGES (\$'000)

1968	61.3	22.7	..	..	..	24.9	47.5	19.6
1969	18.4	4.5	..	3.4	1.4	1.5	10.9	27.9
1970	194.8	25.4	0.3	3.3	1.8	40.0	70.8	116.5
1971	102.3	59.7	56.0	4.8	..	2.4	122.9	73.3
1971—								
March Qtr ..	66.4	6.2	..	0.6	..	..	6.8	14.3
June Qtr ..	10.9	23.8	2.0	..	..	..	25.8	8.8
Sept. Qtr ..	23.0	29.7	31.0	..	..	..	60.7	45.8
Dec. Qtr ..	2.1	..	23.0	4.2	..	2.4	29.6	4.5

Labour, Wages and Prices

Industrial Disputes By Industry Groups—continued

Period	Railway Services	Road and Air Transport	Shipping	Stevedoring	Amusement, Hotels, Personal Service, etc.	Other Industries (a)	Total
NUMBER OF DISPUTES							
1968	1	1	..	4	..	1	28
1969 .. .. .	..	4	3	5	2	1	44
1970 .. .. .	..	2	2	6	..	4	66
1971 .. .. .	..	1	2	4	..	1	46
1971—							
March Quarter .. .. .	..	..	..	..	..	..	7
June Quarter .. .. .	..	..	1	3	..	1	12
September Quarter .. .. .	..	1	1	1	..	..	20
December Quarter .. .. .	..	..	..	..	..	..	7
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)							
1968	0.5	..	..	0.8	..	0.4	7.8
1969 .. .. .	..	2.8	0.1	1.8	0.6	0.1	8.7
1970 .. .. .	..	0.7	..	2.3	..	0.6	14.8
1971 .. .. .	..	0.2	0.1	1.3	..	..	14.7
1971—							
March Quarter .. .. .	..	..	..	..	..	..	1.7
June Quarter .. .. .	..	..	..	1.0	..	..	1.7
September Quarter .. .. .	..	0.2	..	0.3	..	..	7.9
December Quarter .. .. .	..	..	..	..	..	..	3.4
WORKING DAYS LOST ('000)							
1968	0.4	..	..	0.6	..	1.0	13.0
1969 .. .. .	..	3.1	0.2	1.9	0.3	0.1	9.9
1970 .. .. .	..	3.1	..	2.7	..	0.6	32.2
1971 .. .. .	..	0.2	0.2	0.9	..	..	20.6
1971—							
March Quarter .. .. .	..	..	..	..	..	..	4.4
June Quarter .. .. .	..	..	0.2	0.9	..	..	3.6
September Quarter .. .. .	..	0.2	..	..	..	..	9.5
December Quarter .. .. .	..	..	..	..	..	..	3.1
ESTIMATED LOSS IN WAGES (\$'000)							
1968	4.7	0.2	..	6.3	..	9.5	149.0
1969 .. .. .	..	30.3	2.8	21.1	2.3	1.7	115.3
1970 .. .. .	..	31.2	0.5	30.7	..	6.5	451.1
1971 .. .. .	..	2.9	3.8	11.9	..	0.3	317.3
1971—							
March Quarter .. .. .	..	..	..	..	..	..	87.5
June Quarter .. .. .	..	..	3.8	11.3	..	0.3	60.8
September Quarter .. .. .	..	2.9	..	0.6	..	..	133.0
December Quarter .. .. .	..	..	..	..	..	..	36.1

(a) Includes: communications; finance and property; wholesale and retail trade; public authority (n.e.i.) and community and business services.

Appendix A

CHRONOLOGY AND LATER INFORMATION

CHRONOLOGY: THE YEAR 1972

Kialoa II took line honours in the Sydney-Hobart yacht race. 'On-the-spot' traffic tickets introduced. ABKT₂ television station commenced broadcasts on King Island. Hobart jockey, Geoff Prouse, rode 'the card' at Elwick—only third time in Australian racing that this had been achieved at a metropolitan meeting. Argentine Ant infestation discovered at Launceston. K. O. Lyons resigned cabinet portfolios and ended Liberal-Centre Party Coalition. House of Assembly dissolved. *Empress of Australia* taken off the Hobart run and put on the Bass Strait service. House of Assembly elections—Labor returned with landslide victory (A.L.P., 21; Liberal Party, 14). Mr Bethune resigned as leader of State Parliamentary Liberal Party and Mr Bingham elected to the position. A.P.P.M. Longreach woodchip plant commenced production. National Wage Case—total wage increased by \$2.00 and minimum wage for adult males by \$4.70 per week. Goods train collided with workers' trolley on north-east line, four men killed. Federal Parliamentary Standing Committee on Public Works approved additions costing \$2.2m to Hobart Repatriation Hospital. English Red Fox (prohibited animal) caught in rabbit trap at Riverside (western shore of Tamar). The Honourable C. B. M. Fenton elected President of the Legislative Council. Waterside workers were awarded 35-hour week. House of Assembly passed a Bill lowering the age of majority to 18 years. On 24 June record low temperatures recorded throughout the State; Hobart recorded temperature of -2.89°C . A.N.L. vessel *Princess of Tasmania*, which inaugurated roll-on roll-off ferry service to Tasmania in 1959, made her final trip to Tasmania. The House of Assembly terms fixed at five years for present term and four years thereafter. An outbreak of bovine brucellosis was reported in Circular Head area. Mr Everett (Deputy Premier, Attorney General, etc.) resigned from cabinet over the Lake Pedder writ issue. Following legislation validating flooding of Lake Pedder Mr Everett resumed all former cabinet portfolios except that of Minister for Police and Licensing. The Victorian Government banned sale of flake—seriously affected Tasmanian shark fishermen. C.S.I.R.O. reported excessive levels of zinc in oysters from Ralphs Bay at the entrance to the Derwent. Mt Lyell Mining and Railway Company Ltd fired last shot at its West Lyell Open-cut Mine—ended 37-year life of the open-cut. (Company returned to underground mining for most of its ore.) Metric system of recording temperature introduced on 1 September. Tasmanian cyclist Danny Clark gained Silver Medal at Munich Olympics. Work on Mersey-Forth H.E.C. Scheme almost completed—work-force reduced to 190 men. New \$200,000 meat processing plant opened at Somerset. First export shipment of woodchips made from A.P.P.M. Longreach plant. New Scottsdale district hospital completed. \$580,000 King Island hospital complex opened. State Government announced cigarette and tobacco tax. King Island's Naracoopa rutile mine re-opened by Buka Minerals (N.L.). 17-man Tasmanian police riotsquad created. Commonwealth Government sponsored anti-smoking campaign commenced. Sheffield hospital closed down. Potential scallop beds located in Bass Strait. Hellyer Regional Library took delivery of new \$13,000 bookmobile. Work started on second stage of Bell Bay rail link. \$1.6m extensions to Devonport factory of Tasman Scottish Carpet Manufacturing Pty Ltd commenced. Severe drought conditions in south-east. Riots at Risdon Gaol—vandalism caused extensive damage. Government announced intention to introduce off-course T.A.B. Lactos cheesemaking complex commenced production of Gouda cheese for Japanese export market. Tasmanian horse, Piping Lane, won the Melbourne Cup. Two cases of cholera

reported in Tasmania. New \$360,000 Ridgley primary school completed. *Environment Protection Bill* was introduced into the House of Assembly. Drought conditions were widespread. H.E.C. agreed to release water from *Parangana Dam* to restore flow in upper reaches of Mersey River. Bushfire in the Gordon River area burnt out 50,000 acres. Federal elections—A.L.P. returned to power (after 23 years as the Federal Opposition). Representation in the House of Representatives was: A.L.P., 67; Liberal Party, 38; Country Party, 20. Tasmania returned five A.L.P. members. Fossil of 300 million years old dragon fly discovered in Hellyer Gorge (west coast area). Mining company refused licence to mine limestone in scenic Precipitous Bluff area of southern Tasmania. The Premier was asked to declare east coast a drought area. High fire danger period; about 80 bushfires burning throughout the State. National Wage Case decision handed down: (i) Commission agreed to apply the principal of equal pay for work of equal value in all of its awards; (ii) no increases to the total or minimum wages granted—further considerations of these aspects deferred until March 1973. Tasmania received additional \$3 million in Commonwealth grants. Commonwealth Government announced grant of \$300,000 to assist construction of Launceston sewage treatment plant. Two Tasmanians (Mr L. H. Barnard and Senator K. S. Wriedt) received portfolios in new Federal Labor Government Ministry. Trial dumping at sea of jarosite waste from Electrolytic Zinc Company's Risdon plant carried out. Complete ban on fires in the open. Premier announced decision to construct an expressway through Burnie. Challenge to Tasmanian tobacco and cigarette tax taken to High Court. \$2.5m tender let for construction of new Launceston police station. Australian dollar revalued by 7.05 per cent. No road deaths in Christmas holiday period in Tasmania. Specialist from U.K. Gaming Board arrived to train Tasmanian casino inspectors. American-owned Esso oil company applied for mineral exploration licence for Zeehan area—interested in copper.

LATER INFORMATION

Chapter 3

1972 Election for House of Representatives

After 23 years in opposition the Australian Labor Party was elected to office at the elections for the Commonwealth House of Representatives held on 2 December 1972. Final result of the election was: A.L.P., 67; Liberal Party, 38; Country Party, 20. Tasmania returned five A.L.P. members to the Commonwealth House of Representatives—they were: Mr L. H. Barnard (Bass); Mr J. Coates (Denison); Mr R. Davies (Braddon); Mr G. W. A. Duthie (Wilmot); and Mr R. H. Sherry (Franklin). Following the 1972 election, Mr L. H. Barnard became Deputy Prime Minister and Minister for Defence and Senator K. S. Wriedt was appointed Minister for Primary Industry.

Chapter 5

Off-Course T.A.B.

On 1 November 1972 the State Labor Government announced that off-course totalisator betting would be introduced to replace the State's existing bookmaker system of betting on race meetings. The principal reason for the decision was to avoid adverse adjustments to the Special Grant by the Commonwealth Grants Commission. (Under the bookmaking betting system Tasmania's per capita level of racing taxation was well below that achieved in the Standard States of New South Wales and Victoria.)

Legislation to establish the proposed off-course T.A.B. system is expected to be introduced during the 1973 Autumn session of Parliament. The new system of betting will commence in late 1973. Tasmania's T.A.B. system will operate on both local and mainland races and will be independent of mainland and T.A.B. pools.

Chapter 6

Classification of Tasmanian Population at Census of 30 June 1971

Classification	Males	Females	Persons
Population of Tasmania: Total	196,442	193,971	390,413
By Age—			
Age Group in Years—			
0-4	20,103	19,222	39,325
5-9	20,667	19,688	40,355
10-14	21,318	20,325	41,643
15-19	18,179	17,697	35,876
20-24	16,059	15,708	31,767
25-29	13,515	12,865	26,380
30-34	11,950	11,364	23,314
35-39	10,947	10,478	21,425
40-44	11,752	10,939	22,691
45-49	11,761	11,295	23,056
50-54	10,089	9,896	19,985
55-59	9,388	9,126	18,514
60-64	7,429	7,616	15,045
65-69	5,483	5,774	11,257
70-74	3,638	4,825	8,463
75 and Over	4,164	7,153	11,317
By Marital Status—			
Never Married	99,856	86,680	186,536
Married	88,698	88,359	177,057
Permanently Separated	2,314	2,484	4,798
Divorced	1,678	1,723	3,401
Widowed	3,896	14,725	18,621
By Birthplace—			
Australia	174,560	175,590	350,150
External Territories	69	58	127
New Zealand	806	744	1,550
Total Australasia	175,435	176,392	351,827
United Kingdom and Eire	11,480	11,033	22,513
Austria	280	170	450
Baltic States (now part of U.S.S.R.)	307	176	483
Germany	1,109	900	2,009
Greece	520	391	911
Hungary	225	99	324
Italy	928	557	1,485
Malta	41	16	57
Netherlands	1,709	1,474	3,183
Poland	964	492	1,456
U.S.S.R.	191	131	322
Yugoslavia	739	281	1,020
Other Europe	720	441	1,161
Total Europe	19,213	16,161	35,374
China	151	103	254
India, Pakistan and Ceylon	197	219	416
Other Asia	596	400	996
Total Asia	944	722	1,666
Africa	371	324	695
America (North and South)	402	305	707
Pacific Islands and at Sea	77	67	144

Classification of Tasmanian Population at Census of 30 June 1971—continued

Classification	Males	Females	Persons
Population of Tasmania: Total	196,442	193,971	390,413
By Occupational Status—			
In Labour Force—			
Employer	6,841	1,727	8,568
Self-employed	8,442	1,892	10,334
Employee	90,627	39,649	130,276
Unpaid Helper	277	760	1,037
Unemployed	1,786	1,261	3,047
Total in Labour Force	107,973	45,289	153,262
Not in Labour Force—			
Home Duties .. .. .	..	75,568	75,568
Child Not Yet at School	21,358	20,508	41,866
Child at School	45,665	43,121	88,786
Full-time Student	2,757	2,503	5,260
Other	18,689	6,982	25,671
Total Not in Labour Force	88,469	148,682	237,151
By Industry—			
Agriculture, Forestry, Fishing and Hunting—			
Agriculture	9,977	1,569	11,546
Services to Agriculture	492	47	539
Forestry and Logging	1,095	41	1,136
Fishing and Hunting	530	21	551
Sub-Total	12,094	1,678	13,772
Mining	4,375	204	4,579
Manufacturing	25,313	6,219	31,532
Electricity, Gas and Water	3,389	293	3,682
Construction	12,502	415	12,917
Wholesale and Retail Trade	16,522	10,594	27,116
Transportation and Storage	6,919	676	7,595
Communication	2,443	794	3,237
Finance, Insurance, Real Estate and Business Services	4,537	3,285	7,822
Public Administration and Defence	4,987	2,223	7,210
Community Services	6,516	11,244	17,760
Entertainment, Recreation, Restaurants, Hotels and Personal Services	2,904	4,713	7,617
Not Classified	3,686	1,690	5,376
Total Employed	106,187	44,028	150,215
Plus Unemployed	1,786	1,261	3,047
Total in Labour Force	107,973	45,289	153,262
Total Not in Labour Force	88,469	148,682	237,151
By Nationality—			
British (includes Australian Citizens)	192,772	191,356	384,128
Dutch	432	397	829
German	307	223	530
Greek	279	259	538
Irish	97	72	169
Italian	464	315	779
Polish	125	93	218
U.S.A.	169	112	281
Yugoslavia	265	98	363
Other	712	408	1,120
Stateless	820	638	1,458

Classification of Tasmanian Population at Census of 30 June 1971—continued

Classification	Males	Females	Persons
Population of Tasmania: Total	196,442	193,971	390,413
By Period of Residence in Australia—			
Born in Australia (excluding External Territories) ..	174,560	175,590	350,150
Not Born in Australia—			
Under 1 Year	986	888	1,874
1 Year and Under 2	1,046	969	2,015
2 Years and Under 3	1,031	948	1,979
3 Years and Under 4	806	734	1,540
4 Years and Under 5	808	707	1,515
5 Years and Over	15,926	13,344	29,270
Not Stated	589	506	1,095
Visitors	690	285	975

Chapter 13

Classification of Occupied Private Dwellings, Census of 30 June 1971

Classification	Number	Classification	Number
By Class of Dwelling—		By Material of Outer Walls—	
Private House	98,749	Brick	21,670
Villa Unit	647	Brick Veneer	12,993
Self-Contained Flat	8,417	Stone	1,355
Other Private	1,785	Concrete	3,064
Total	109,598	Timber	65,247
By Nature of Occupancy—		Metal	1,332
Owner	73,261	Fibro-Cement	3,682
Tenant—Government	6,946	Other	255
Other	23,636	Total	109,598
Not Stated	2,290	By Electricity and Gas—	
Total	109,598	Gas Only	96
By Number of Rooms—		Electricity Only	99,784
1 Room	1,227	Gas and Electricity	8,675
2 Rooms	2,864	No Gas, No Electricity	297
3 Rooms	5,245	Not Stated	746
4 Rooms	16,156	Total	109,598
5 Rooms	50,749	By Method of Sewage Disposal—	
6 Rooms	21,660	Main Sewer	72,021
7 Rooms	7,236	Separate System	28,238
8 Rooms and Over	4,461	Sanitary Pan	3,149
Total	109,598	Other	5,385
		Not Stated	805
		Total	109,598

Chapter 17

National Wage and Equal Pay Case 1972

Claims placed before the Commonwealth Conciliation and Arbitration Commission raised four broad issues: (i) whether there should be a general increase in wages; (ii) whether there should be an increase in the minimum wage for adult males; (iii) whether the minimum wage for adult males should be applied to females; and (iv) whether any new principles should be formulated about equal pay for females.

On the first two issues the Commission decided not to award any increase and further consideration of them was adjourned until March 1973. The Commission also rejected the union request that the minimum wage for adult males be applied to adult females. On the question of equal pay the Commission decided that a new concept of 'equal pay for work of equal value' should apply in all of its awards. (The concept formulated in the 1969 equal pay case was of 'equal pay for equal work'.) Under the new concept award rates for all work will be considered on a work value basis without regard to the sex of the employees concerned. The new principle may be implemented either by agreement or arbitration—where arbitration is involved it will necessitate 'work value' inquiries.

PUBLICATION OF TASMANIAN STATISTICS

HOW TO OBTAIN CURRENT PUBLICATIONS

General

The Tasmanian Office of the Commonwealth Bureau of Census and Statistics is located at *Kirksway House, corner of Kirksway Place and Montpelier Retreat, Hobart*. Requests for statistical publications can be made by calling at this address; by phoning, *Hobart 20 2122*; or by writing to the *Deputy Commonwealth Statistician, G.P.O. Box 66A, Hobart, 7001*.

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the enquiry, then a special extraction of the data required may be undertaken if they are readily available from the basic records held in the office.

Historical

Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act 1924*, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Commonwealth Bureau of Census and Statistics, such office to meet the statistical needs of the State Government; provision was made for the Deputy Commonwealth Statistician, a Commonwealth officer, to hold at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L. F. Giblin, M.C., D.S.O., who had previously been the State Government Statistician. (It was not till the late 1950s that similar arrangements were made in the other Australian States.)

Statistics from 1804

In the Archives Office of Tasmania, the following series are available:

- (i) Official 'Blue Books' for period 1822-1855.
- (ii) *Statistical Account of Van Diemen's Land or Tasmania, 1804 to 1854* compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (iii) *Statistics of Tasmania*—annual publications from 1856 to 1922-23.
- (iv) *Statistics of the State of Tasmania*—annual publications commencing 1923-24 and continuing to 1967-68. (Copies of these volumes are held at the University Library, the State Library in Hobart, the Public Library in Launceston and the Tasmanian Office of the Commonwealth Bureau of Census and Statistics.) Although the bound volume entitled *Statistics of the State of Tasmania* has been discontinued as from the 1967-68 issue, the component parts are still published as separate bulletins (these are listed in the table of 'Printed Publications' in the following section).

Copies of publications listed from (ii) to (iv) inclusive, are available for inspection at the Tasmanian Office of the Bureau.

Current Publications of the Tasmanian Office

The Tasmanian Office of the Commonwealth Bureau of Census and Statistics is engaged in a continuous publication programme, the statistics appearing in either printed or mimeographed form.

In general, the mimeographed publications (which are obtainable free of charge) are issued with a view to disseminating statistical information as soon as possible after it becomes available. Printed publications contain information in very much greater detail but, because of the time consuming nature of manuscript preparation and the printing process, may be issued a year later than the period to which they refer. (The printed *Monthly Summary of Statistics* is an exception and the 'lag' is no more than about two months.)

Printed Publications

The following table sets out details of all printed publications issued by the Tasmanian Office:

Printed Publications Issued by the Tasmanian Office

Title	Frequency	For Issue in 1973	Price	
			Excluding Postage (\$)	Including Postage (\$)
Tasmanian Year Book	Annual	1973	2.00	2.61
Monthly Summary of Statistics ..	Monthly	(a)	0.15	0.22
Pocket Year Book of Tasmania ..	Annual	1973	0.15	0.27
Demography	Annual	1971	0.60	0.78
Trade and Shipping	Annual	1972-73	0.40	0.58
Labour, Wages and Prices	Annual	1971-72	0.60	0.78
Primary Industries	Annual	1971-72	0.70	0.88
Building Industry	Annual	1972-73	0.20	0.32
Finance	Annual	1970-71	0.60	0.78
Social	Annual	1971	0.20	0.38
Statistical Summary	Irregular	1971-72	0.40	0.52

(a) Published one or two months after the most recent month for which figures are available.

Mimeographed Publications

The next table gives details of all mimeographs produced by the Tasmanian Office:

Mimeographed Publications Issued by the Tasmanian Office
(Free of Charge)

Title of Publication	Frequency
Bee Farming Statistics	Annual
Building and Co-operative Societies, Pension and Superannuation Schemes	Annual
Building Approvals	Monthly
Building Construction Statistics	Quarterly
Compendium of Municipal Statistics	Irregular
Crop Statistics	Annual
Dairy Industry Statistics	Annual
Farm Population, Employment, Machinery, Irrigation and Fertiliser Used	Annual
Fire, Marine and General Insurance	Annual
Fruit Statistics	Annual
Hop Production	Annual
Hospital Morbidity Statistics	Annual
Index of Tasmanian Towns	Irregular
Industrial Accident Statistics	Annual
Industrial Disputes	Annual
Livestock Statistics	Annual
Local Government Finance	Annual
Meat Production	Annual
Motor Vehicle Registrations	Monthly
Population and Vital Statistics	Quarterly
Population in Local Government Areas	Annual
Potato Statistics	Annual
Poultry Statistics	Annual
Productive Activity: Miscellaneous Indicators	Monthly
Road Traffic Accidents Involving Casualties	Quarterly
Sawmilling, Woodchipping, etc. Statistics	Annual
Tractors on Rural Holdings	Monthly
Trade (Overseas)	Triennial
Trade (Overseas and Interstate) by Sea and Air	Annual
Value of Primary Production	Annual
Wool Production Statistics	Annual

TASMANIAN STATISTICS IN CENTRAL OFFICE PUBLICATIONS

General

Although publications of the Tasmanian Office of the Bureau of Census and Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office.

How to Obtain Central Office Publications

Central Office printed publications may be *bought* direct from the Australian Government Publishing Service, Canberra and from the Tasmanian Office of the Bureau of Census and Statistics; they may also be ordered from leading booksellers in the principal centres. A standing order may be placed with the Australian Government Publishing Service, Canberra, with whom a credit account may be arranged.

In addition to printed publications for which a charge is made, there are other Central Office publications (mimeographed, etc.) which may be obtained free of charge from the Commonwealth Statistician, Canberra.

Subject Matter of Central Office Publications

The fields of statistical enquiry covered in Central Office publications are very wide and the best way to obtain a guide to the material available is to write to: *The Commonwealth Statistician, Canberra* and ask for *Publications of the Commonwealth Bureau of Census and Statistics*. Copies of this guide are also available at the Tasmanian Office of the Bureau. This free comprehensive guide lists the publications of the Central Office and of the State Offices; in addition, it contains a subject index.

Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

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The Tasmanian Aboriginal	1967 (1), pp 6-10
Wybalenna, The Tasmanian Aboriginal Settlement on Flinders Island	1973 (7), pp 10-13
Apple Industry, Economic Aspects	1973 (7), pp 236-248
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